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June 1, 2015

Jane Diamond, Director, Water Division (WTR-1)
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105
**c/o Terrence Fleming, US EPA Region 9**
VIA ELECTRONIC MAIL: fleming.terrence@epa.gov

Re: Comment Letter: California's 303(d) List of Impaired or Threatened Waters – Flow Listings

Dear Director Diamond:

We write with regard to the California State Water Resources Control Board's (SWRCB) recent adoption of the 2012 Clean Water Act (CWA) Section 303(d) list of impaired or threatened waters (303(d) list) for the North Coast Region.[1] The undersigned tribes, fishing groups, environmental groups, and others (Coalition) strongly support and call for the listing of seriously over-diverted waterways as impaired due to altered flow. The proposed North Coast flow listings were recently rejected by the SWRCB. Accordingly, we ask that US EPA list these specific North Coast waterways as "flow-impaired" on California's 2012 303(d) list;[2] this request is described further in the attached three documents. In the alternative, we ask that the EPA immediately develop guidance for California to identify flow impairments, so that the other regions of California may appropriately list flow-impaired waterways as they work to complete their 2012 303(d) lists.

[1] Letter from Tom Howard, Executive Director, SWRCB to Jane Diamond, US EPA (April 2014); at: http://www.waterboards.ca.gov/water_issues/programs/tmdl/docs/ir_usepa_transmit_ltr.pdf.
[2] The North Coast "shortlist" developed by Coalition members includes the following North Coast waterways: Scott River, Shasta River, Upper Main Eel River, Mattole River, Maacama Creek and Mark West Creek.

There are a number of reasons to list these waterways as impaired due to altered flows. These are outlined below and in the attached three documents; numerous other documents can be made available in the event of further questions.

**The CWA calls for identification of flow-impaired waterways under Section 303(d).**

Under CWA Section 303(d)(1)(A), where a water body's water quality standards are not being met, then "those waters" "shall" be identified under Section 303(d), whether the impairment is due to a pollutant or pollution (such as low flows). Water quality standards encompass both designated uses and water quality criteria established to protect those uses. Where low flows impair a beneficial use, water quality standards have been violated, and the water body should be listed. The U.S. Supreme Court itself stated in *PUD No.1 v. Washington Department of Ecology* that "...a sufficient lowering of the water quantity in a body of water could destroy all of its designated uses, be it for drinking water, recreation, navigation, or . . . a fishery."[3] In California, available data shows clear beneficial use impairments due to low flow for "shortlist" waterways – especially the severely dewatered Scott and Shasta Rivers[4] (see below). California's 303(d) list should accurately reflect these waters as impaired for low flow.

*Main stem of the Scott River, October 2014 (with ATV tracks). Photo by Karuk Tribe.*

**There are numerous benefits to listing waterways as impaired due to altered flow.**

Flow impairment listings would provide numerous benefits to California waterways that are in desperate need of additional flow, particularly during the ongoing historic drought. First, flow impairment listings would support water-wise, local land use and planning decisions by requiring local decisionmakers to consider and potentially mitigate flow impacts for development and redevelopment projects (such as through CEQA). Local advocates testified repeatedly in public meetings as to this point in particular, identifying specific ways that flow listings could be applied at the *local* level. Second, flow impairment listings can increase the chance of receiving government funds (including under California's $7.5 billion Proposition 1 water bond) to restore flow. Third, flow impairment listings could lower the burden of proof at state hearings related to flow, such as waste and unreasonable use hearings, dam removals (as utilized by Ohio), public trust doctrine applications, and others. The Coalition's attached

[3] *PUD No.1 v. Washington Department of Ecology*, 511 U.S. 700, 719 (May 31, 1994).

[4] North Coast staff found sufficient information to characterize the Scott and Shasta Rivers as "impaired." North Coast Regional Water Quality Control Board, "Staff Report for the 2012 Integrated Report for the Clean Water Act Section 305(b) Surface Water Quality Assessment and the 303(d) List of Impaired Waters," p. 67; at: www.waterboards.ca.gov/northcoast/board_info/board_meetings/08_2014/items/05/140725_2012IR_StaffReport.pdf.

February 5, 2015 letter to the State Water Resources Control Board outlines further benefits, as well as additional details on the above-listed benefits.

**Many other states already list waterways as impaired due to altered flow, providing a clear template for California and other states to adopt.**

As the attached September 2014 memo attests, many other states already list waterways as impaired due to altered flow, either on the 303(d) list or in the 305(b) Report. For example, Tennessee includes flow impairment listings on its 303(d) list itself, regardless of whether the waterway has an associated "pollutant" listing. Tennessee staff state that they do this to highlight all sources of impairments in a single list for decisionmakers and the public. Some states (Ohio, Michigan, New Mexico) list flow impairments on the 303(d) list (also called "Category 5/303(d)" list) if a waterway is also listed for a pollutant impairment. Other states identify flow impairments on the 305(b) Report (as Category 4C) rather than the 303(d) list (as Category 5) (Idaho, Montana, Vermont, Washington, Wyoming). The Coalition favors Tennessee's approach of including all impairments on the 303(d) list regardless of other pollutant listings, although the other approaches can also be effective and are certainly preferable to ignoring the flow impairment data before us.

* * *

In light of the legal and practical support for flow listings, in addition to the direction provided by other states, we ask that US EPA include the above-identified waterways as "impaired due to altered flow" on California's 2012 303(d) list. In the alternative, we ask that US EPA develop guidance immediately to inform California on how to identify flow impairments in its other six regions, which have yet to complete their 2012 listing process.

Please let us know if you would like to arrange a meeting to answer any questions and offer additional input. Thank you for your attention to these comments.

Sincerely,

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attachments: Letter from Earth Law Center *et al.*, to SWRCB, "Comment Letter—303(d) List Portion of the 2012 California Integrated Report" (Feb. 5, 2015)

Memorandum from Earth Law Center to SWRCB and US EPA, "Clean Water Act Section 303(d) and 305(b) Listings of Impaired Waters: Ten Examples" (Sept. 19, 2014) - p. 50 of file

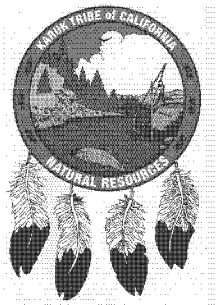
Letter from Earth Law Center *et al.*, to North Coast Regional Water Quality Control Board, "Comment Letter – Resolution No. R120140043 and Staff Report for the 2012 Integrated Report for the Clean Water Act Section 305(b) Surface Water Quality Assessment and the 303(d) List of Impaired Waters" (Aug. 8, 2014) - p. 72 of file

cc: Janet Hashimoto, US EPA Region 9










February 5, 2015

Felicia Marcus, Chair and Board Members
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

**VIA ELECTRONIC MAIL** c/o Ms. Jeanine Townsend at commentletters@waterboards.ca.gov

**Re: Comment Letter—303(d) List portion of the 2012 California Integrated Report**

Dear Chair Marcus and Board Members:

We welcome the opportunity to comment on the proposed federal Clean Water Act (CWA) Section 303(d) list of water quality limited segments (303(d) list) portion of the 2012 California Integrated Report. The undersigned tribes, fishing groups, environmental groups and others (Coalition) have been actively involved in the 2012 Integrated Report process since mid-

2010, and we comment below specifically with regard to the identification of flow-impaired water bodies within the North Coast Region.

Specifically, we ask that the State Water Resources Control Board (State Water Board) recognize on the 303(d) list those waterways identified on the Coalition's May 15, 2013 "shortlist" (attached for reference) which we believe are "clearly and incontrovertibly impaired" due to extremely low to no flow.[1] At a minimum, we ask for the 303(d) flow listing of the Scott and Shasta Rivers, which the North Coast staff found to have sufficient submitted information and data to meet all criteria of a staff-suggested methodology for characterization as "impaired."[2] In the alternative, we ask that these waters be listed as impaired due to altered flow on the state's 305(b) Report. Such listings are called for by the Clean Water Act (CWA) and U.S. EPA guidance, and are an important precursor to further action under local, state and federal laws and policies to prevent further degradation and ensure the long-term health of the state's waterways. Many other states already list waterways as impaired due to altered flow. California should catch up – rather than continuing to delay proper identification of all impairments – in order to keep and return needed flow in our rivers and streams.

In summary, the State Water Board should identify the "shortlist" waterways as flow-impaired for the following reasons:

- The CWA calls for stakeholder involvement in the 303(d)/305(b) process through the submission of citizen data and comments. The Coalition and other members of the public have responded over the last four and a half years with data, lines of evidence, legal analysis, and repeated accounts of the necessity of, and practical benefits associated with, the requested flow impairment listings. Yet, virtually none of the public's input is reflected in the Draft Staff Report on the 2012 California Integrated Report [Clean Water Act Sections 303(d) and 305(b)] (Draft Staff Report). This raises serious questions as to the effectiveness and future viability of state-citizen partnerships, which are essential to ensuring the good health of the state's waterways. This is not a one-way process; the public must be involved in both the provision of relevant local data, and in the application of impairment listings to protect local waterways.

- The CWA calls for 303(d) listings where beneficial uses are impaired – whether by pollution or pollutants. California can and should choose to include flow impairments

[1] The North Coast "shortlist," developed by Klamath Riverkeeper, the Karuk Tribe, the Pacific Coast Federation of Fishermen's Associations (PCFFA), Friends of the Eel River, Russian Riverkeeper, California Sportfishing Protection Alliance (CSPA), Earth law Center, California Coastkeeper Alliance and others, includes the following North Coast waterways: Scott River, Shasta River, Upper Main Eel River, Mattole River, Maacama Creek and Mark West Creek. Letter from ELC and CCKA to the State Water Board, "Inclusion of Impairments Due to Low Flow in the California 2012 Section 303(d) List" (May 15, 2013), at: http://www.earthlawcenter.org/static/uploads/documents/303d_listings_letter_May_15_2013_1.pdf (attachment).

[2] North Coast Regional Water Quality Control Board, "Staff Report for the 2012 Integrated Report for the Clean Water Act Section 305(b) Surface Water Quality Assessment and the 303(d) List of Impaired Waters," p. 67 ("North Coast Staff Report"), at: http://www.waterboards.ca.gov/northcoast/board_info/board_meetings/08_2014/items/05/140725_2012IR_StaffReport.pdf.

under Category 4c of its Section 303(d) list, or, at minimum, must identify flow-impaired waterways as such in the state's overall Integrated Report.

- A flow objective is not necessary to make a listing for flow impairment. Water quality standards encompass both the designated uses of a water body and the water quality criteria established to protect those uses, as well as antidegradation requirements. As long as an impairment of a beneficial use can be shown, the waterway is impaired regardless of the existence of adopted criteria. Available data shows clear beneficial use impairments due to low flow for "shortlist" waterways, particularly the Scott and Shasta Rivers. These waterways should accurately be listed as impaired due to altered flow.

- Similarly, a state-adopted methodology is not necessary to list "shortlist" flow-impaired waterways – especially the Scott and Shasta Rivers. Numerous other states successfully list for flow impairment without a standardized methodology. Even if the State Water Board insists on utilizing a methodology, the Listing Policy's "weight of evidence" can be used to support flow listings.

- Sufficient data are available on multiple North Coast waterways (especially the Scott and Shasta Rivers) to find that flow alterations are causing impairment. The Draft Staff Report fails to even acknowledge the North Coast staff's recognition of strong flow impairment data submitted on the Scott and Shasta Rivers, which met all the criteria of the North Coast staff's suggested methodology for flow listings. The Draft Staff Report must be revised to recommend flow listings for at least the Scott and Shasta Rivers and to describe in detail the procedure and other justifications for the rejection of listings for other "shortlist" waterways.

- The Draft Staff Report incorrectly concludes that water segments cannot be listed as flow-impaired under Category 4c when the same water segment is listed as impaired by a pollutant. To the contrary, U.S. EPA's 2006 Guidance specifically demonstrates that states using a "multi-category" reporting framework can list a waterway in both Category 4c and 5. States using a "single category" reporting framework can list a waterbody with both Category 4c and 5 impairments. For example, numerous states (such as Idaho, Ohio and Tennessee) list waterways in Category 4c for pollution even when pollutant impairments are identified for the same segment, with EPA approval.

- Pollutant listings do not effectively address flow, since only pollution listings properly and directly address flow impairment. This is why EPA's 2006 Guidance distinguishes "lack of adequate flow" as a *cause* of impairment, rather than solely as a *source* of impairment.

- Those waterways already listed as impaired due to altered flow in Region 4 should not be delisted during the next Listing Cycle. Delisting these waterways is neither required by law nor warranted by the data that correctly justified the initial listings.

- California should choose to list waterways as impaired due to altered flow on its 303(d) list rather than the 305(b) Report. Other states take this approach, such as Tennessee

(which places all impaired waterways on its 303(d) list, including those in Category 4c) and Ohio (which lists flow as a cause of impairment on its 303(d) list if there is also a pollutant impairing the waterway). If the State Water Board chooses not to take this approach, they should at least list flow-impaired waterways on the 305(b) Report.

- While the flow programs listed in the Draft Staff Report are important, they are simply insufficient to both keep water in threatened and impaired waterways and ensure that additional water is put back in those waterways. The state must allow local citizens to utilize the tools they need to protect waterways – these tools include formal flow impairment identification where appropriate.

- In addition to ensuring the proper identification of the state's impaired waterways, there are numerous practical benefits of flow listings that expand upon and complement other identified, existing programs to restore flow. These include: supporting better local land use and planning decisions that keep flow in impaired waterways, ensuring greater prioritization for restoration funding, easing of the burden of proof in state regulatory processes that can address flow needs, and allowing for the state to better track and highlight waterway impairment causes (thereby prioritizing resources to address those waterways more efficiently).

Support for the listings of these waters as flow-impaired, as well as the benefits of such listings, are explored in greater depth below.

***(1) The Draft Staff Report Largely Ignores the Extensive Stakeholder Involvement and Inputs Since Mid-2010.***

The Coalition has worked collectively with the State Water Board and North Coast Regional Water Quality Control Board (North Coast Board) for four and a half years to document the need in law and fact for the requested flow impairment listings. This began as a joint Scoping Letter submitted by numerous conservation and fishing organizations in August 2010 ("Scoping Comments").[3] The Scoping Comments, based on analysis of CWA requirements and available data, called for specific waterways throughout the state that are impaired or threatened due to altered flow to be listed in Category 4c or 5 on the 303(d) list. On July 31, 2012, Earth Law Center (ELC) submitted comments to the State Water Board describing the many flow-impairment listings nationwide[4] and highlighting the practical benefits of such listings.[5] Coalition members, including conservation, fishing and tribal organizations, followed up with a joint presentation on the need for such listings at the August 7, 2012 State Water Board meeting.[6]

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[3] Letter from California Coastkeeper Alliance *et al.* to the State Water Board, "Notice of Public Solicitation of Water Quality Data and Information for 2012 California Integrated Report [Clean Water Act Sections 305(b) and 303(d)]" (Aug. 30, 2012), at: http://cacoastkeeper.org/document/ccka-comments-on-2012-303(d)-list.pdf.

[4] The letter pointed out that there were over 50,660 miles of rivers and streams listed as flow-impaired, according to EPA data.

[5] Letter from ELC to the State Water Board, "8/7-8/8/2012 Board Meeting, Item #7 – "Inclusion of Impairments Due to Low Flow in the 2012 Integrated Report" (Jul. 31, 2012), at: http://www.waterboards.ca.gov/board_info/agendas/2012/aug/linda_sheehan.pdf.

[6] State Water Board Meeting, " Inclusion of Impairments Due to Low Flow in the 2012 Integrated Report" (Aug. 7,

A May 15, 2013 letter to the State Water Board from ELC and California Coastkeeper Alliance (CCKA) (attached for reference) further described in detail the benefits of flow listings and attached a "shortlist" of waterways believed by Coalition members and others to be "clearly and incontrovertibly impaired."[7] After a meeting with Chair Marcus and upper management in Summer 2013, ELC provided as requested further details on the listing processes other states use to identify flow impairment.[8] At the State Water Board's additional request, ELC also worked with State Water Board staff to draft Lines of Evidence for the Shasta River, Scott River, Mattole River, and the Upper Main Eel River, to provide examples of how these listings might be supported in the final Staff Report.

Again at the request of the State Water Board, in September 2014 ELC researched and provided details on the exact categorization of the flow impairment listings in ten states around the country (*i.e.*, Category 4c versus 5, 303(d) versus 305(b), etc.).[9] Once more at the State Water Board's request, ELC researched and provided information on practical results from flow listings in other states.[10]

Despite years of increasingly detailed legal and factual support, however, the North Coast staff listed no waterways as flow-impaired on either the 303(d) list or the 305(b) Report. The primary cited reason in its Public Review Draft Staff Report for the 2012 Integrated Report (Public Review Draft Staff Report) was that the "Listing Policy does not provide guidance for evaluation of water quality impairments related to reduced flow." However, as the Coalition explained in its joint April 1, 2014 comment letter to the State Water Board[11] and at subsequent North Coast workshops in both Santa Rosa and Redding,[12] this reasoning is flawed. The CWA, implementing regulations and U.S. EPA guidance do allow for flow listings; a specific methodology for such is unnecessary in cases where there are clear beneficial use impairments;

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2012), Agenda at: www.waterboards.ca.gov/board_info/agendas/2012/aug/agenda080712.pdf.

[7] Letter from ELC and CCKA to the State Water Board, "Inclusion of Impairments Due to Low Flow in the California 2012 Section 303(d) List" (May 15, 2013), at: http://www.earthlawcenter.org/static/uploads/documents/303d_listings_letter_May_15_2013_1.pdf.

[8] Letter from ELC to the State Water Board, "State Approaches to Listing for Flow Impairment under CWA Section 303(d)" (Jul. 9, 2013), at: http://earthlawcenter.org/static/uploads/documents/SWRCB_Memo_303d_7.9.13._Final.pdf.

[9] Memorandum from ELC to the State Water Board, "Clean Water Act Section 303(d) and 305(b) Listings of Impaired Waters: Ten Examples" (Sept. 19, 2014), at: http://earthlawcenter.org/static/uploads/documents/303d_and_305b_listings_for_flow_9-19-14.pdf.

[10] For example, ELC found that in Michigan, flow listings attract additional funding and help guide nonprofits and local government in developing watershed management plans. In New Mexico, CWA § 319 grants are tied directly to New Mexico's integrated list, including Category 4C listings. In Ohio, flow listings are leveraged to justify dam modification or removal. Finally, Tennessee uses the 303(d) list (which includes Category 4C listings) as a complete and accurate list of impairments to help set priorities for action and funding.

[11] Letter from ELC *et al.* to the State Water Board, "Release of North Coast Regional Water Quality Control Board 'Public Review Draft Staff Report for the 2012 Integrated Report'" (Apr. 1, 2014), at: http://earthlawcenter.org/static/uploads/documents/303d_Ltr_NorCal_Flows.pdf.

[12] Coalition members also wrote letters in response to the 2012 Integrated Report Workshops; *see e.g.*, Letter from CCKA to the North Coast Board, "Response to Recent Workshop Comments Regarding the North Coast Regional Water Quality Control Board March 14, 2014 'Public Review Draft Staff Report for the 2012 Integrated Report'" (Apr. 18, 2014), at http://www.waterboards.ca.gov/northcoast/water_issues/programs/tmdls/303d/pdf/140506/CaliforniaCoastkeeperAlliance_SaraAminzadeh.pdf.

and listings can move forward where the data support such listings. Thus the Coalition found in its letter to the State Water Board the "failure to include *any* flow listings to be unsupportable."

After the North Coast's revised Staff Report for the 2012 Integrated Report (North Coast Staff Report) was released on July 30, 2014, the Coalition submitted additional comments[13] (attached for reference) and testified with numerous other supporters of the flow listings at the August 14, 2014 North Coast Board meeting. (Notably, no one spoke in opposition to the listings.) The Coalition supported the North Coast staff's assessment of strong flow impairment evidence for the Scott and Shasta Rivers, but opposed the decision not to list these waterways in light of this data showing impairment. While the North Coast Board ultimately approved the 303(d) list without flow impairment listings, the Resolution's subsection on flow (as described further below) specifically "reserves its right to modify the 303(d) List in accordance with applicable rules and regulations...."[14] The hearing following up on this direction is set for March 11, 2015.

Considering the significant, regular public involvement that has occurred for four and a half years, the Coalition is surprised that the Draft Staff Report not only recommended *no* flow impairment listings, but also failed to recognize the extensive arguments and information provided by the Coalition and its members, often at the State Water Board's own request. Indeed, the Draft Staff Report actually takes a step *backwards* from the North Coast Staff Report by failing to specifically address the strong flow impairment data available for the Scott and Shasta Rivers, data recognized by the North Coast staff. Based on the extensive information provided by the public, as well as other readily available information (which the State Water Board is required to consider),[15] the Coalition asks that the Draft Staff Report be revised to list those North Coast waterways on the "shortlist" as flow-impaired. At minimum, the Scott and Shasta Rivers should be listed as flow-impaired, as was recognized by the North Coast staff.

In light of the years of extensive involvement of a wide representation of parties in support of the flow listings, we are concerned about the integrity of the public-state partnership necessary for successful implementation of the CWA and associated restoration of threatened and impaired waterways. The CWA calls for stakeholder involvement in the 303(d)/305(b) process though the submission of citizen data and comments. Stakeholders responded over the last four and a half years by submitting data, lines of evidence, legal analysis, and detailed descriptions of the need to list for flow impairment and the practical benefits of such, much of it in specific response to State Water Board requests. These points were further discussed at numerous meetings with the State Water Board and North Coast Board. In order to provide specific direction, the Coalition even identified "shortlist" waterways so severely impaired by

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[13] Letter from ELC *et al.* to the North Coast Board, "Comment Letter – Resolution No. R1-2014-0043 and Staff Report for the 2012 Integrated Report for the Clean Water Act Section 305(b) Surface Water Quality Assessment and the 303(d) List of Impaired Waters" (Aug. 8, 2014), at: http://earthlawcenter.org/static/uploads/documents/303d_Ltr_NorCal_Flows_Res_and_Staff_Rpt.pdf.

[14] North Coast Regional Water Quality Control Board, Resolution No. R1-2014-0043, ¶ 15, at: http://www.waterboards.ca.gov/northcoast/board_decisions/adopted_orders/pdf/2014/140814_0043_IR_Resolution_Adopted.pdf.

[15] 40 C.F.R. § 130.7(b)(5); *see also* U.S. EPA, "Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act," pp. 18, 29 (July 29, 2005), at: http://www.epa.gov/owow/tmdl/2006IRG/report/2006irg-report.pdf.

altered flow as to be "clearly and incontrovertibly impaired." This significant amount of stakeholder input is virtually ignored in the Draft Staff Report.

Effective state-citizen partnerships are essential for ensuring the good health of California's waterways. Failing to recognize *any* waterways as flow-impaired or meaningfully respond to the specific points the Coalition and other stakeholders have raised for years questions the future effectiveness and viability of public-state partnerships in the context of the 303(d)/305(b) process and its implementation. The Coalition asks that the Draft Staff Report be revised to reflect the significant stakeholder involvement in the 303(d)/305(b) process, particularly by listing "shortlist" waterways as flow-impaired pursuant to Section 303(d) – especially, the Scott and Shasta Rivers – and responding to other points raised by the Coalition in these comments and previous comments.

***(2) Summary of Support for Listing of Waterways Impaired Due to Altered Flow.***

The Coalition has provided extensive information to the State and Regional Water Boards over the last four and a half years in support of listing flow impaired waterways on the state's 303(d) list (or at a minimum, on its 305(b) Report). This information can be found in the linked and attached letters. For the sake of completeness, we summarize this information here.

CWA Section 303(d)(1)(A) establishes the requirements for the 303(d) list as follows:

> Each state shall identify those waters within its boundaries for which the effluent limitations required by section 301(b)(1)(A) and section 301(b)(1)(B) are not stringent enough to implement any water quality standard applicable to such waters. The State shall establish a priority ranking for such waters, taking into account the severity of the pollution and the uses to be made of such waters.

In other words, if (after the identified Section 301 controls are put in place) a water body's water quality standards are not being met, then "those waters" "shall" be identified under Section 303(d) – regardless of whether due to pollutant or pollution. Indeed, Section 303(d)(1)(A), which mandates such identification of impaired waters, includes only the word "pollution." The word "pollutant" does not become relevant until Section 303(d)(1)(C), which addresses total maximum daily loads (TMDLs). Identifying a waterway as flow-impaired under Category 4c is thus consistent with inclusion on the 303(d) list, which by the CWA's own language encompasses "pollution."

The identification of flow-impaired waterways under Section 303(d)(1)(A) is a separate and distinct task from determining whether or not TMDLs are required to address those impairments. This latter task is described in CWA Section 303(d)(1)(C) as follows:

> Each State shall establish for the waters identified in paragraph [303(d)](l)(A)] of this subsection, and in accordance with the priority ranking, the total maximum daily load, for those pollutants which the Administrator identifies ... as suitable for such calculation....

Unlike Section 303(d)(1)(A), Section 303(d)(1)(C) does specifically reference "pollutants," but in the context of developing a TMDL only. In other words, Section 303(d) of the CWA supports the listing of all impaired waterways – whether impaired by pollution or pollutants – and then the development of TMDLs for the pollutant impairments on the list. States such as Tennessee recognize this, and place waterways impaired by altered flow in their 303(d) List under Category 4c. California can and should choose to include flow impairments under Category 4c in its Section 303(d) list – and at a minimum must specifically identify flow-impaired waterways as such in the state's overall Integrated Report.

The above argument was supported by North Coast Board Chair John Corbett, who stated at the August 14, 2014 North Coast Board meeting that "there is merit to the argument [under] 303(d)(1)(a) that you can list a water as being impaired as separate from particular pollutants." Chair Corbett also stated that he thinks the reasoning presented by ELC for flow impairment listings "is right."[16] Chair Corbett accordingly asked that the final Resolution approving the 2012 303(d) list be amended to "add the phrase 'and reserving the right to add to the 303(d) list.'"[17] This directive was adopted and ultimately reflected in the subsection regarding surface water flows in North Coast Board Resolution No. R1-2014-0043, stating that "[t]he Regional Water Board reserves its right to modify the 303(d) List in accordance with applicable rules and regulations, including the Listing Policy."[18] Based on the CWA, as well as the statements offered by the Chair of the North Coast Board, the Draft Staff Report should be revised to properly include "shortlist" waterways – especially the Scott and Shasta Rivers – as flow impaired, preferably on the 303(d) list but if not, in the 305(b) Report.

***(3) A Flow Objective Is Not Necessary to Make a Listing for Flow Impairment.***

The Draft Staff Report states that "without a numeric or narrative objective to apply as an evaluation guideline, the use of current assessment methods is not appropriate" (p. 11). This is incorrect. Water quality standards encompass both the designated uses of a water body and the water quality criteria established to protect those uses, as well as antidegradation requirements. Where low flows in rivers, creeks and stream have impaired a beneficial use, the water quality standards have been violated, and the water body segment must be listed under Section 303(d). The U.S. Supreme Court itself recognized in *PUD No.1 v. Washington Department of Ecology*, that "…a sufficient lowering of the water quantity in a body of water could destroy all of its designated uses, be it for drinking water, recreation, navigation, or . . . a fishery."[19] For example, if a river is designated for use as a coldwater fishery, but reduced flows have resulted in increased temperatures and lowered water depths such that the river can no longer support fish, low flows clearly have impacted the water body's designated use.[20] Numerous beneficial uses in

[16] North Coast Board Meeting, Aug. 14, 2014, audio recording available at: http://www.waterboards.ca.gov/northcoast/board_info/board_meetings/08_2014/mp3/08_item_5.mp3.
[17] *Id.* (emphasis added).
[18] The surface water flows section of the Resolution states that "The Regional Water Board reserves its right to modify the 303(d) list in accordance with applicable rules and regulations, including the Listing Policy." Resolution No. R1-2014-0043, at: http://www.waterboards.ca.gov/northcoast/board_decisions/adopted_orders/pdf/2014/140814_0043_IR_Resolution_Adopted.pdf.
[19] *PUD No.1 v. Washington Department of Ecology*, 511 U.S. 700, 719 (May 31, 1994).
[20] For example, adult coho salmon migrate at water temperatures of 45 to 59°F, a minimum water depth of

California imply a certain amount of flow to support that use, including aquatic habitat, fisheries, endangered species protection, and many others. Available data shows clear beneficial use impairments due to low flow for "shortlist" waterways – particularly the Scott and Shasta Rivers – and so they should accurately be listed as impaired to protect those uses, regardless of the existence of a flow objective.

Moreover, from a practical perspective, waiting the numerous years likely needed to adopt flow objectives would cause corresponding years worth of harm to affected waterways, harm that could be prevented with timely identification of flow impairments. The next integrated report cycle for the North Coast is 2018, and a flow objective may well not be adopted by that date. Both the Draft Staff Report and recent North Coast Board Triennial Review actions support this concern; these demonstrate that no one has committed to the development of a flow objective, despite the insistence that one is needed. For example, more than eight years ago,[21] North Coast staff began developing an instream flow (also known as "watershed hydrology") objective as part of the Stream and Wetland System Protection Policy in partnership with the San Francisco Regional Water Quality Control Board.[22] However, North Coast staff has not assisted with this work since 2008, and despite public requests, staff failed to list the flow objective as a "high priority" item in the North Coast's proposed 2014 Triennial Review process.[23] Moreover, the Draft Staff Report also fails to commit the State Water Board to developing a flow objective. For example, while State Water Board staff "recommend[s], at a minimum, the development of a narrative water quality objective related to surface flows" (p. 11), the Draft Staff Report does not specifically indicate *who* will develop this argued-for flow objective and under what timeframe.

Other states have avoided this logjam and moved forward with CWA-compliant, narrative flow objectives that allow them to readily identify flow-impaired waterways and take other protective actions under the CWA.[24] However, California does not appear to be on this path. Considering the low likelihood of a North Coast flow objective being completed by any state entity in the next several years, the State Water Board should act *now* to list clearly flow-impaired waterways, including the Scott and Shasta Rivers. As described below, flow impairment listings can provide immediate protections for waterways and imperiled aquatic

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approximately seven inches, and streamflow velocities less than eight ft/sec. National Marine Fisheries Service, "Magnuson-Stevens Reauthorization Act Klamath River Coho Salmon Recovery Plan," p. 4 (July 2007).

[21] *See e.g.*, North Coast Board, "Stream and Wetlands System Protection Policy North Coast Regional Water Quality Control Board" (Nov. 2006), at: www.waterboards.ca.gov/northcoast/water_issues/programs/basin_plan/swspp/061109_swspp_scope.pdf.

[22] The instream flow (watershed hydrology) objective language has already been drafted, and a peer-reviewed scientific justification for the watershed hydrology objective (along with other elements of the overarching Stream and Wetland System Protection Policy) has been developed. *See* Ho, Bruce & Livsey, Ben, "Staff Report for Amendments to the Water Quality Control Plans for the North Coast and San Francisco Bay Regions to Protect Stream and Wetland Systems," External Peer Review Draft, p. 116 (2009), at: http://earthlawcenter.org/static/uploads/documents/Peer_Review_Draft_Staff_Report_SWSPP_Jan_13_2010.pdf.

[23] Letter from ELC to the North Coast Board, "Staff Report for the 2014 Triennial Review of the Water Quality Control Plan for the North Coast Region" (Jan. 9, 2015), at: http://earthlawcenter.org/static/uploads/documents/Region_1_Triennial_Review_Comments_ELC.pdf.

[24] Tennessee's narrative instream flow water quality standards, for example, read: "Stream or other waterbody flows shall support the fish and aquatic life criteria," and "Stream flows shall support recreational uses." These have been described by U.S. EPA as "Clean Water Act compliant." Letter from U.S. EPA Region 4 to Alabama Department of Environmental Management (2012), pp. 9-14, attached to Jan. 9, 2015 letter from ELC to the North Coast Board, *supra*.

species while other processes (such as any flow objectives that may occur) continue to move forward.

***(4) A Methodology Is Not Necessary to List "Shortlist" Flow-Impaired Waterways.***

The Draft Staff Report calls for a "consistent methodology for addressing pollution [...] prior to including assessments of flow-related information" (p. 11). But as multiple letters from Coalition members to the North Coast Board[25] and the State Water Board[26] indicate, it is the CWA, its implementing regulations and U.S. EPA Guidance that constitute the overarching legal basis for state action – not a state-adopted methodology. That is the reason that numerous other states around the country (including California itself) have already successfully listed for flow impairment, even without a standardized methodology.

If State Water Board staff insists on using an adopted methodology, the Listing Policy can serve this purpose. The Listing Policy states that where the "weight of evidence indicates non-attainment, the water segment shall be placed on the Section 303(d) list,"[27] even when all other Listing Factors do not result in a listing. Coalition members including ELC staff participated extensively in the drafting of the Listing Policy through the AB 982 PAG, and can attest that the weight of evidence approach was developed for such purposes. As the provided and readily available data show, the "weight of evidence" for "shortlist" waterways indicates impairments due to altered flow, and such waterways should be listed for flow impairments.

A statewide policy for identifying flow impairments for the 303(d) list and/or 305(b) Report, if developed by the State Water Board for close cases (*i.e.*, cases unlike the Scott and Shasta Rivers), must comply with the letter and intent of CWA Section 303(d) to serve as a backstop to protect waterways where pollution controls fail to protect beneficial uses. Particularly in light of the state's significant deviation from the federally mandated, biennial 303(d)/305(b) Report schedule, any decisionmaking structure to identify flow-impaired waterways must err on the side of recognizing and listing threatened and impaired waterways, rather than erecting further roadblocks to restoring essential flows. Delays for the development of a "flows listing policy" would interfere with the need to immediately identify the most egregious cases of water bodies impaired due to altered flow, including the Scott and Shasta Rivers.

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[25] *See, e.g.*, Letter from CCKA to the North Coast Board, "Response to Recent Workshop Comments Regarding the North Coast Regional Water Quality Control Board March 14, 2014 'Public Review Draft Staff Report for the 2012 Integrated Report'" (Apr. 18, 2014), at: http://www.waterboards.ca.gov/northcoast/water_issues/programs/tmdls/303d/pdf/140506/CaliforniaCoastkeeperAlliance_SaraAminzadeh.pdf.

[26] *See, e.g.*. Letter from ELC *et al.*, to the State Water Board, "Release of North Coast Regional Water Quality Control Board "Public Review Draft Staff Report for the 2012 Integrated Report" (Apr. 1, 2014), at: http://earthlawcenter.org/static/uploads/documents/303d_Ltr_NorCal_Flows.pdf.

[27] Listing Policy at 12.

***(5) Sufficient Data Are Available on the Scott and Shasta Rivers for a Flow-Impairment Listing.***

After reviewing data on North Coast flow, State Water Board staff concluded that "a consistent source of high quality flow data across watersheds is lacking" (p. 11). This statement is incorrect. As North Coast staff pointed out in their Staff Report, there is sufficient data for at least the Scott and Shasta Rivers to make a finding of impairment due to altered flow. After suggesting a methodology with specific criteria that could be used to evaluate flow impairment, North Coast staff found that "[s]ubmitted information for the Scott River and Shasta River indicate that all criteria are met, if this methodology were to be used."[28] By contrast, the State Water Board's Draft Staff Report fails to even acknowledge the North Coast staff's suggested methodology and recognition of the strong flow impairment data available for the Scott and Shasta Rivers.

No reason was given for the state's rejection of this conclusion by the North Coast staff. Presumably, since the Draft Staff Report states that a methodology is needed for listing for flow, the fact that the staff's methodology was not standardized across the state might provide the reason for that rejection. However, as noted above, since no specific methodology is required by the CWA, logically a reasonable methodology should be acceptable. Moreover, the State Water Board further ignores information provided (as requested) by ELC on other states' listing methodologies, which demonstrate a wide range of acceptable and straightforward processes for identifying flow-impaired waterways.[29] By comparison with these, the North Coast staff's suggested methodology should be considered fully acceptable.

We ask that the Draft Staff Report be revised to at least recommend listing of the Scott and Shasta Rivers for flow, as identified in the North Coast Staff Report, and to also describe in detail the assessment procedure taken for "shortlist" waterways that were rejected for listing. If the State Water Board chooses to ignore the North Coast staff's findings with regard to date for the Scott and Shasta, we ask that the reasons for that rejection be provided in detail, particularly in light of the extensive work to date by the public and North Coast staff regarding consideration of flow impairments in these waterways.

***(6) The Draft Staff Report Incorrectly Concludes that Waterways Cannot be Listed as Flow Impaired When Already Listed as Impaired by a Pollutant.***

Based on their own interpretation of the EPA's 2006 Guidance, State Water Board staff chose to "not place[] waters in [C]ategory 4c for pollution when other impairments by pollutants

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[28] North Coast Staff Report, p. 67.

[29] For example, both Ohio and Tennessee use biological criteria to raise a red flag on flows, and then look more deeply to see if flows are a problem for flagged waterways (especially where there are dams). In Wyoming, most flow listings start with identification of higher sediment levels than would be expected (because flow moves sediment), while Idaho's listings similarly start with identification of sediment or temperature issues. For both states, flow listings are made on a case-by-case basis with no formal adopted process. Michigan focuses on listing waterways as impaired by altered flows where they see channelization and drain/ditch issues. *See* Letter from ELC and CCKA to the State Water Board, "Inclusion of Impairments Due to Low Flow in the California 2012 Section 303(d) List" (May 15, 2013), at: http://www.earthlawcenter.org/static/uploads/documents/303d_listings_letter_May_15_2013_1.pdf.

are identified for the same waterbody segment" (p. 10). This is contrary to the interpretations by other states and U.S. EPA. According to U.S. EPA's 2006 Guidance, a water segment "should be placed in Category 4c when [...] the failure to meet an applicable water quality standard is not caused by a pollutant, but instead is caused by other types of pollution." Contrary to the Draft Staff Report's interpretation, the plain meaning of this language is Category 4c is reserved for impairments caused by pollution rather than pollutants. It says nothing about the case in which impairments are caused by *both* pollutants and pollution, focusing only on the categorization of pollutants versus pollution under the Guidance system.

EPA's 2006 Guidance does not state that waterways cannot be listed for both pollutant and pollution impairments. To the contrary, the EPA's 2006 Guidance demonstrates that if a state uses a "multi-category" reporting framework (as the EPA's 2006 Guidance suggests[30]), then a waterway can be placed in both Category 4c and 5. The Guidance specifically demonstrates this point with "Segment J" in its "Segment Categorization Guide" (see Figure 1, below). If a state chooses to use a "single-category" approach (*i.e.*, where "Category 5 takes precedence over all other categories"), then a water body that has both a Category 4c and 5 impairment can be classified under Category 5, while still recognizing the pollution impairment (again as demonstrated by "Segment J"; *see* Figure 1, below). [31]

[30] A memorandum at the beginning of the 2006 U.S. EPA Guidance from Diane Regas, Director, Office of Wetlands, Oceans and Watersheds states that "the [Assessment Database] is being modified to accommodate the recent format, content, and **multi-category listing option that the guidance suggests**." *See* Guidance for 2006 Assessment, Listing, and Reporting Requirements Pursuant to Sections 303(d), 305(b), and 314 of the Clean Water Act, at: http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/upload/2006irg-report.pdf ("2006 EPA Guidance") (emphasis added).

[31] 2006 EPA Guidance, Exhibit 5-1, pp. 48-49.

**SEGMENT CATEGORIZATION**

| | DU1 | DU2 | DU3 | DU4 | Single Category | Multi-Category |
|---|---|---|---|---|---|---|
| SEGMENT 1 | ✔+ | | | | C1 | C1 |
| SEGMENT 2 | T | ✔- | | | C5 | C5 |
| SEGMENT 3 | ✔+ | ✔+ | ? | | C2 | C2 & C3 |
| SEGMENT 4 | ✔- | 4a | ? | ✔+ | C5 | C5, C4a, C3 & C2 |

***Additional examples are provided below to further illustrate the process of segment classification into multiple categories.***

| | DU1 | DU2 | DU3 | DU4 | Single-Category | Multi-Category |
|---|---|---|---|---|---|---|
| SEGMENT A | ✔+ | ✔+ | ✔+ | ✔+ | C1 | C1 |
| SEGMENT B | ✔- | ✔- | ✔- | ✔- | C5 | C5 |
| SEGMENT C | ✔- | ✔- | ✔- | T | C5 | C5 |
| SEGMENT D | ? | ? | ? | ? | C3 | C3 |
| SEGMENT E | 4b | ✔- | ✔- | ✔- | C5 | C4b, C5 |
| SEGMENT F | ✔+ | ✔+ | ✔- | ✔- | C5 | C2 & C5 |
| SEGMENT G | ✔+ | ✔+ | ? | ? | C2 | C2 &C3 |
| SEGMENT H | ? | ? | ? | ✔- | C5 | C3 & C5 |
| SEGMENT I | ✔+ | ✔+ | ✔+ | 4c | C4c | C2, C4c |
| SEGMENT J | ? | ? | 4c | T | C5 | C3, C4c, & C5 |
| SEGMENT K | ✔+ | ? | ? | ✔- | C5 | C2, C3, & C5 |
| SEGMENT L | ✔+ | ✔+ | ? | T | C5 | C2, C3 & C5 |
| SEGMENT M | ✔+ | ? | 4b | ✔- | C5 | C2, C3, C4b & C5 |

Figure 1: U.S. EPA Guidance demonstrating that waterbody segments can be listed for both pollutant (here, "C5") and pollution (here, "C4c") impairments. *(Source: 2006 EPA Guidance, Exhibit 5-1, "2006 Integrated Reporting Guidance: Segment Categorization Guide," p. 49).*

Other states demonstrate this same understanding by placing water bodies (with U.S. EPA approval) in Category 4c for pollution, even when other impairing pollutants are identified for the same segment. For example, Tennessee lists Egypt Hollow Creek as impaired due to flow alterations under Category 4c and impaired due to low dissolved oxygen and manganese under Category 5. Further, Tennessee places *both* impairments on their 303(d) List (*see* Figure 2 below).

Final Version 2012 303(d) LIST (Duck River Watershed cont.)

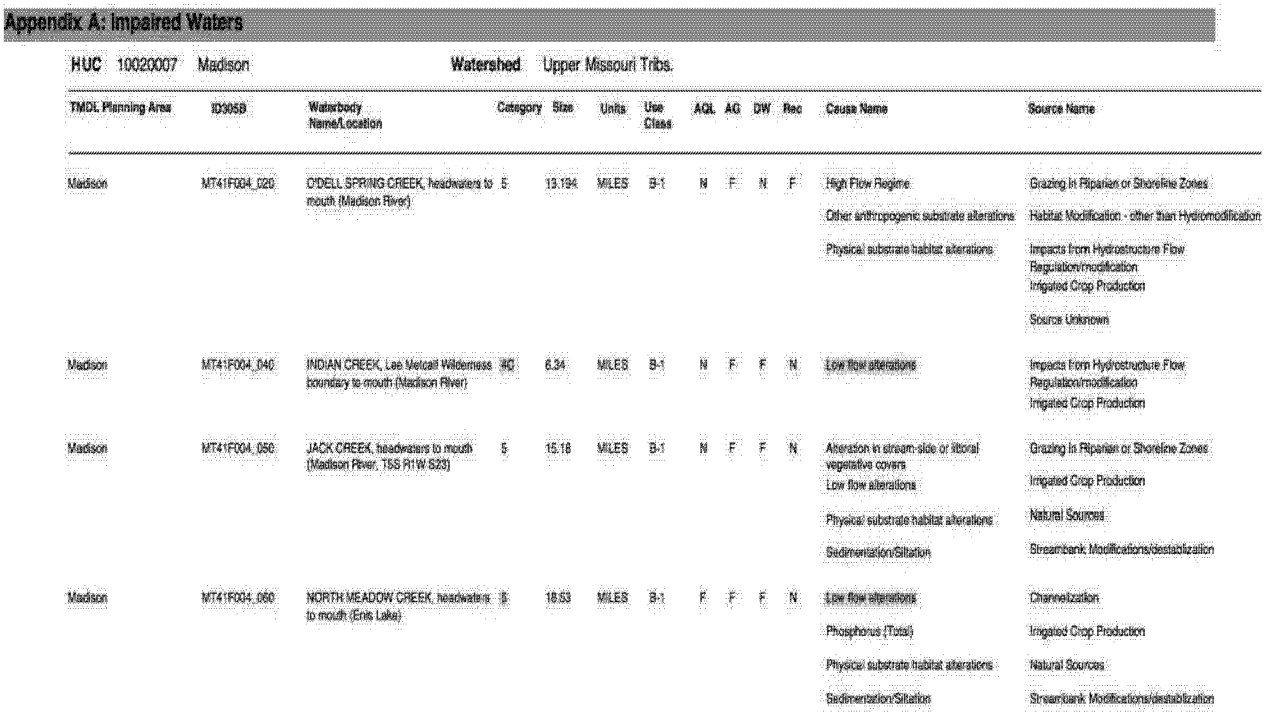
| Waterbody ID | Impacted Waterbody | County | Miles/Acres Impaired | CAUSE / TMDL Priority | | Pollutant Source | COMMENTS |
|---|---|---|---|---|---|---|---|
| TN06040003 041 – 1100 | DOG BRANCH | Hickman Maury | 13.8 | Escherichia coli | NA | Pasture Grazing | Category 4a. EPA approved a pathogen TMDL that addresses the known pollutant. |
| TN06040003 050 - 0620 | GRAB CREEK | Dickson | 3.94 | Escherichia coli | H | Pasture Grazing<br>Discharges from MS4 area | Stream is Category 5. One or more uses are impaired. |
| TN06040003 060 – 0700 | EGYPT HOLLOW CREEK | Humphreys | 4.68 | Flow Alterations<br>Low dissolved oxygen<br>Manganese | NA<br>L<br>H | Upstream Impoundment | Category 5. Flow is Category 4C, impacts not due to a pollutant. |
| TN06040003 062 – 3000 | BLUE CREEK | Humphreys | 5.1 | Nitrate+Nitrite<br>Total Phosphorus<br>Low dissolved oxygen<br>Solids<br>Escherichia coli | M<br>M<br>L<br>L<br>NA | Municipal Point Source | McEwen STP. Category 5. EPA approved a pathogen TMDL that addresses some of the known pollutants. |

Figure 2: Tennessee 303(d) List with Both Category 4c and 5 Impairments for a Single Waterbody Segment
*(Source: Tennessee Department of Environmental and Conservation, "Year 2012 303(d) List" (Jan. 2014)).*

Idaho similarly lists waterway segments as impaired under both Category 4c and Category 5. Appendix I of the latest Idaho Integrated Report contains 36 pages (7,342 river/stream miles) of Category 4c impairments, including numerous waterways listed as impaired for "low flow alterations"; many of these are also dual-listed for pollutant impairments.[32]

In another example, Montana classifies waterways under Category 4c when there is *only* a pollution impairment. If there is a pollution *and* a pollutant impairment, then Montana lists the waterway under Category 5, and compiles all of the impairment causes in Appendix A ("Impaired Waters") (*see* Figure 3). This is consistent with the "single-category" approach described in the 2006 U.S. EPA Guidance. Montana develops TMDLs only for the pollutant impairments, but develops the full Impaired Waters list under Category 5 to provide the public and decisionmakers with a clear picture of the state of the health of its waterways.

[32] *See* https://www.deq.idaho.gov/media/1117323/integrated-report-2012-final-entire.pdf. Appendix J consists of Category 5 waterways, which can be cross-referenced to easily see the dual listings. *Id.*



**Appendix A: Impaired Waters**

HUC 10020007 Madison Watershed Upper Missouri Tribs.

| TMDL Planning Area | ID3059 | Waterbody Name/Location | Category | Size | Units | Use Class | AQL | AG | DW | Rec | Cause Name | Source Name |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Madison | MT41F004_020 | O'DELL SPRING CREEK, headwaters to mouth (Madison River) | 5 | 13.194 | MILES | B-1 | N | F | N | F | High Flow Regime | Grazing in Riparian or Shoreline Zones |
| | | | | | | | | | | | Other anthropogenic substrate alterations | Habitat Modification - other than Hydromodification |
| | | | | | | | | | | | Physical substrate habitat alterations | Impacts from Hydrostructure Flow Regulation/modification |
| | | | | | | | | | | | | Irrigated Crop Production |
| | | | | | | | | | | | | Source Unknown |
| Madison | MT41F004_040 | INDIAN CREEK, Lee Metcalf Wilderness boundary to mouth (Madison River) | 4C | 6.34 | MILES | B-1 | N | F | F | N | Low flow alterations | Impacts from Hydrostructure Flow Regulation/modification |
| | | | | | | | | | | | | Irrigated Crop Production |
| Madison | MT41F004_050 | JACK CREEK, headwaters to mouth (Madison River, T5S R1W S23) | 5 | 15.18 | MILES | B-1 | N | F | F | N | Alteration in stream-side or littoral vegetative covers | Grazing in Riparian or Shoreline Zones |
| | | | | | | | | | | | Low flow alterations | Irrigated Crop Production |
| | | | | | | | | | | | Physical substrate habitat alterations | Natural Sources |
| | | | | | | | | | | | Sedimentation/Siltation | Streambank Modifications/destabilization |
| Madison | MT41F004_060 | NORTH MEADOW CREEK, headwaters to mouth (Ennis Lake) | 5 | 18.53 | MILES | B-1 | F | F | F | N | Low flow alterations | Channelization |
| | | | | | | | | | | | Phosphorus (Total) | Irrigated Crop Production |
| | | | | | | | | | | | Physical substrate habitat alterations | Natural Sources |
| | | | | | | | | | | | Sedimentation/Siltation | Streambank Modifications/destabilization |

***Figure 3**: Montana listing of both pollutant- and pollution-impaired waterways on a single list of Impaired Waters. (Source: Montana DEQ, "Appendix A: Impaired Waters").*

As indicated by the plain language of the EPA Guidance, as well as other states' approved interpretations of the EPA Guidance to allow for dual listings of both pollution and pollutant impairments (including Idaho, Ohio, Montana and Tennessee), the Draft Staff Report's conclusion that such listings cannot occur is simply incorrect. Moreover, pollution impairments can and have been listed under Category 5 (similar to Montana's approach) and as part of the final "303(d) List" (Tennessee's approach). California's 303(d) list (or, alternatively, the 305(b) Report) similarly should accurately reflect *all* sources of impairment, regardless of dual pollutant/pollution listings.

### *(7) Flow Is Not Effectively Addressed Through Pollutant Listings.*

After choosing not to list *any* waterways as impaired due to altered flow, the Draft Staff Report explains that the "[t]he current strategy relies on the TMDL process or other regulatory alternatives to identify causative factors and linkage analyses to control the pollution associated with pollutant impairments" (p. 10). The Draft Staff Report continues that the "lack of flow has been identified as a causal factor" in TMDLs developed to increase water temperature and sedimentation, such as in the Shasta River Watershed Temperature and Dissolved Oxygen TMDL action plan (p. 10). However, addressing flow through pollutant listings is not as effective as addressing flow through flow impairment listings, since only the latter properly and directly addresses the impairment.

For example, if natural flows in a creek that has been designated as "cold freshwater habitat" have been diverted to the point that the shallow water becomes too warm to be adequate fish habitat, the water body should be listed as impaired because of *both* low natural flow *and* elevated temperature, rather than improperly listed only for elevated temperature, with flow alteration as a mere "source" of impairment. If the creek is only listed as impaired because of elevated temperature, the mitigating action could be (for example) solely planting trees along the banks to create shade, which could actually reduce flows. If a creek is listed because of both flow and temperature impairments, responsive actions are much more likely to include increased flows as well as increased shade, which would provide for a healthier outcome for the stream and its inhabitants overall.[33] For this reason, EPA's 2006 Guidance specifically describes "lack of adequate flow" as a *cause* for listing an impaired or threatened segment on the 303(d) list,[34] distinguishing it from listings of *sources* contained in separate summary tables.[35]

***(8) Existing Waterways Listed under Category 5 Should Not Be Delisted.***

The Draft Staff Report states that the four current listings for flow-related alterations (all in Region 4, which is not part of this listing cycle) "will likely be proposed for delisting as part of the next Listing Cycle" (p. 10). The reason cited is that the listings were made "prior to adoption of the Listing Policy and before guidance was developed on the method to inventory waters impaired by pollution, and not pollutants" (pp. 10-11). However, as described above, the Draft Staff Report's reliance on the Listing Policy is misplaced, since the CWA and its implementing regulations provides the overarching legal and regulatory direction for state action, not the Listing Policy. The CWA calls for listings to reflect beneficial use impairments. State listing policies cannot be less stringent than the CWA. Delisting existing flow-impaired waterways simply based on the existence or not of state guidance is neither required by the CWA nor warranted by the data, which correctly justify the EPA-approved listings. Advocates in Region 4 support the continued listing of waterways as flow impaired for use in waste and unreasonable use determinations, local planning processes, environmental review (e.g., CEQA analyses), and for other purposes. The Coalition also incorporates by reference the Draft Staff Report comments from Santa Barbara Channelkeeper on this issue.

***(9) California Should List for Flow Impairment in the 303(d) List Rather than the 305(b) Report.***

The Draft Staff Report assumes that the Coalition advocated for Category 4c flow listings under the 305(b) Report generally rather than on the 303(d) list.[36] However, the Coalition previously requested that flow impaired waterways be included on the 303(d) list, highlighting as support the other states that take this approach and associated benefits. As described above,

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[33] Of course, the listing should also ideally include the "sources" of both the temperature and low flows impairments, such as agriculture or other activities.

[34] "Examples of circumstances where an impaired segment may be placed in Category 4c include segments impaired solely due to lack of adequate flow or to stream channelization." 2006 EPA Guidance at 56.

[35] *See* U.S. EPA, "National Causes of Impairment" versus "National Probable Sources Contributing to Impairment," available at: http://iaspub.epa.gov/waters10/attains_nation_cy.control#causes.

[36] The Draft Staff Report states that "The Coalition requested that identified waterbodies be included in Category 4c of the *CWA section 305(b) portion* of the 2012 California Integrated Report…." Draft Staff Report, p. 10 (emphasis added).

states such as Tennessee appropriately place waterways impaired by altered flow in one list, to be clear to the public and decisionmakers which waterways are "impaired" and which are not, and why. Tennessee lists all under their 303(d) list, being clear of course that only pollutants will receive TMDLs.[37] Several other ssheetates list flow as a cause of impairment on the "303(d) list" (Ohio) or the "Category 5/303(d)" list (New Mexico, Michigan) if there is also a pollutant impairing the waterway. In California, the State Water Board also can and should choose to include flow impairments under Category 4c in its 303(d) list. If they choose not to, at minimum, the State Water Board should identify flow-impaired waterways in its 305(b) Report.

***(10) Existing Efforts to Restore Flow Described in the Draft Staff Report Are Inadequate to Protect North Coast Rivers and Streams.***

After rejecting flow impairment listings with little explanation, the Draft Staff Report discusses in far more significant detail the state's other efforts to protect flow, expressing that "it is important to acknowledge that the State and Regional Water Boards address flow through various other programs" (*see* p. 11-13). The Coalition commends the State and North Coast Boards on these efforts. However, most of them address flow *outside* of the North Coast, proving of little near- or medium-term value to the waterways at issue. Moreover, there is no information that they will provide the short-term relief that flow listings could provide, as described extensively by the Coalition and other commenters in prior letters and summarized again below.

With respect to the Draft Staff Report's discussion of the public trust doctrine, the Coalition commends the State Water Board's recognition of its responsibilities to protect flows under the doctrine. However, the legal landscape regarding the public trust doctrine is in flux. The California Supreme Court is currently considering whether to grant review of the recent ruling that protecting the public trust could require regulating withdrawals of interconnected groundwater. And acting alone, the State Water Board's efforts to enforce the public trust doctrine have not been sufficient to protect flows in the vulnerable rivers of the North Coast. For example, some North Coast advocates report that they received no substantive State Water Board response to public trust and other complaints concerning Scott River flows, which are so low that salmon either have no or delayed access to some spawning grounds even during normal precipitation years, while irrigators continue to over-divert and inadequately report on such diversions. Listing rivers for flow impairment could bolster the Board's public trust authority by reinforcing the need for responsive actions, including but not limited to curtailment letters.

Another example referenced in the Draft Staff Report is the Policy for Maintaining Instream Flows in Northern California Coastal Streams (AB 2121 Policy). The Coalition appreciates key elements of the AB 2121 Policy, such as the establishment of regionally protective criteria that include a limited season of diversion, minimum bypass flow, and maximum cumulative diversion rate. However, the AB 2121 Policy has significant shortcomings. For example, the geographic scope of the AB 2121 Policy is limited, leaving out the entire Klamath River system. (Similarly, the Russian River Frost Protection regulations provide a

[37] Tennessee includes flow impairments on the 303(d) list (rather than the 305(b) Report) because "[t]he list is supposed to be inclusive of everything we have data to justify" because the public uses the 303(d) list a "quick reference guide as to what is impaired and what is not." (Telephone conversation with Greg Denton, Tennessee Division of Water Resources, Gregory.Denton@tn.gov, Nov. 2014.)

useful tool to address flow, but are geographically limited to the Russian River stream system.) Further, while development of site-specific criteria under the AB 2121 Policy could prove beneficial, implementation has been limited. Finally, the AB 2121 Policy fails to adequately address historic overdiversion in the North Coast. Flow impairment listings would supplement the AB 2121 Policy by offering practical benefits to *all* applicable waterways – regardless of geographic location within the North Coast and other gaps associated with the AB 2121 Policy.

Two final examples referenced in the Draft Staff Report are the State Water Board's "prioritization report" mandated by Delta Reform Act of 2009 and the California Department of Fish and Wildlife's instream flow studies under Public Resources Code sections 10000-10005. In both cases, while the data from the associated instream flow studies will be useful, there have been significant delays in completing these studies. Rather than postponing action while waiting for studies that take years to complete, we should take immediate steps, such as by making flow impairment listings, to protect the most severely dewatered rivers and streams.

***(11) There Are Many Practical Benefits of Flow Impairment Listings that Would Help Restore Flow to Impaired Waterways.***

The Draft Staff Report also barely mentions – in just one short sentence – the benefits of flow impairment listing.[38] ELC and partners have repeatedly informed the State Water Board over the last several years of the many benefits of flow impairment listings, which go far beyond what the Draft Staff Report described. These are benefits already being enjoyed in other states around the country, including Western states. First, Section 303(d) listings for flow could provide support in local land use and planning decisions by requiring decisionmakers to consider flow impacts in development and redevelopment projects under CEQA and other local land use requirements, potentially mitigating the flow impacts of such projects. For example, North Coast advocates report that new well installations impacting formally identified as flow impaired could undergo additional study and potential mitigation under CEQA that otherwise would not occur. North Coast advocates have also cited specific development projects, such as a large Napa winery, for which flow impairment listings would potentially require the mitigation of flow impacts. Second, flow listings can significantly increase the chances of receiving government (particularly bond) funds for flow restoration by highlighting those waterways most in need; they can also help stakeholders meet public and private grant requirements for projects that can result in increased flow, some of which call for attention to impaired waters listings.[39] Third, watershed-based organizations and local governments can use flow impairment listings to help guide their watershed management plans and prioritize activities in their watershed or jurisdiction.[40] Fourth, such listings would lower the burden of proof at State Water Board hearings related to water rights and flow, such as waste and unreasonable use hearings,[41] public

[38] This sentence reads: "The Coalition asserted that inclusion into Category 4c would impact future planning efforts as well as highlight opportunities for restoration funding." Draft Staff Report at 10.
[39] For example, the Montana DEQ reports that flow impairment listings leverage funding for projects intended to result in increased streamflow. (Email from Dean Yashan, Montana DEQ, Dyashan@mt.gov, Nov. 5, 2014.)
[40] Michigan uses flow impairment listings for this purpose. (Email from Kevin Goodwin, Michigan Water Resources Division – DEQ, godwink@michigan.gov, Nov. 7, 2014.)
[41] *See, e.g.,* http://www.waterboards.ca.gov/board_info/agendas/2011/jan/011911_12_reasonableusedoctrine_v010611.pdf.

trust doctrine applications, FERC relicensings, dam removals,[42] new water diversion applications,[43] reopening of existing water rights permits, environmental review of water transfers, and other flow-related actions. Fifth, flow impairment listings can guide implementation of the new groundwater legislation by ensuring that new management plans and groundwater controls properly address the impacts of groundwater extraction on stream flows, which are widespread in the North Coast region. Finally, 303(d) listings for flow would advance the development of a statewide database of waterways with reduced flows, which currently does not exist and is much needed to ensure that the state is properly identifying and prioritizing its efforts to address the health of the waters of the state.[44] These practical benefits (discussed in more detail in the Coalition's May 15, 2013 comment letter and elsewhere) are the reasons that the Coalition and others have been working for almost the last five years to ensure that the most severely dewatered rivers and streams are identified as flow-impaired.

* * *

In summary, we urge the State Water Board to follow the letter and spirit of the CWA's goal to restore the chemical, biological and physical health of the state's waters by listing the identified waterways as impaired by altered flow pursuant to Section 303(d). As described above, waiting for a flow objective or other elements of a statewide methodology is not a CWA mandate and – as demonstrated by the flow listings of other states – is not reason to defer for many more years the listings of such clearly flow-impaired waters.

Finally, as noted above and described in more detail in the attachments, 303(d) listings for flow impairment create significant near-term benefits outside of the CWA that can help protect our waterways now, not years in the future. As you know after receiving years of feedback, local advocates are eager to use the new tools offered by flow-impairment listings to protect their local waterways through local land use processes, regional well permit processes, and other opportunities available to the public to protect flow. Accordingly, we urge the State Water Board to include those rivers and creeks identified on the "shortlist" of flow-impaired waterways on the 303(d) list; and at minimum, we ask for the 303(d) listing of the Scott and Shasta Rivers as impaired due to altered flow. Alternatively, all of these waterways should be listed as flow-impaired on the 305(b) Report.

Thank you for your attention to these comments.

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[42] In Ohio, flow impairment listings are used as part of the argument for dam modifications or removals. Flow listings also help leverage funding for such dam removals. (Email from Trinka Mount, TMDL Program, Ohio EPA, trinka.mount@epa.ohio.gov, Nov. 4, 2014.)

[43] For example, Santa Barbara Channelkeeper reports that even though the Ventura River is over-allocated, new water rights permits are still being written for it.

[44] Such a database could further highlight the link between inadequate flow and beneficial use impairment. For example, New Mexico Environment Department staff stated that New Mexico uses flow impairment listings for completely diverted waterways to "draw attention to the fact that if there is no water, you can't have any aquatic life uses." (Telephone conservation with Lynette Guevara, New Mexico Environment Department, lynette.guevara@state.nm.us, Nov. 2014.)

Sincerely,

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Attachment A – Letter from ELC and CCKA to the State Water Board, "Inclusion of Impairments Due to Low Flow in the California 2012 Section 303(d) List" (May 15, 2013) **Attachment 2 of the May 15, 2013 letter comprises the "shortlist" of flow-impaired waters*

Attachment B – Letter from ELC *et al.* to the North Coast Board, "Comment Letter – Resolution No. R1-2014-0043 and Staff Report for the 2012 Integrated Report for the Clean Water Act Section 305(b) Surface Water Quality Assessment and the 303(d) List of Impaired Waters" (Aug. 8, 2014)

# ATTACHMENT A



May 15, 2013

Felicia Marcus, Chair, and Board Members
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814
***Via Electronic Mail***

Re: Inclusion of Impairments Due to Low Flow in the California 2012 Section 303(d) List

Dear Chair Marcus and State Water Board Members:

Thank you for your attention and inquiry into the identification and Section 303(d) listing of water bodies threatened or impaired by alterations in natural flow. In brief, we urge the Board to take action to list water bodies threatened or impaired by altered flow in the state's 2012 Section 303(d) list, in either Categories 4C or 5. As discussed in detail in our joint 2010 Scoping Comments for the 2012 list,[1] and the subsequent comment letter[2] to the State Water Resources Control Board for the August 2012 informational item on this matter, such listings are required by the Clean Water Act, and are an important precursor to further action under existing and future laws and policies to prevent further degradation and ensure the long-term health of the state's waterways.

For your information in assessing these listings, we have compiled in this letter a brief summary of some of the key benefits of such listings. Among other benefits, the listings are essential in that they would provide support for actions that prevent further diversions or other practices that reduce flows in already-impaired waterways. These benefits have already been recognized by other states, who are already well into programs for listing and addressing waterways impaired by altered flow. We attach a summary of such efforts in other states, which provides both background information and staff contact data that could be used by the State Water Board in support of a similar listing initiative.

While the Clean Water Act mandates listing of all waterways impaired by altered flow, we attach a shortlist of severely flow-impaired waterways that would be a solid starting point for a similar 303(d) effort for flows in California. Starting with a subset of waterways are so clearly flow impaired, based on a wide variety of existing data, will make 303(d) listings straightforward to support, and will reduce Board staff resources associated with identifying new listings. We would welcome the opportunity to add additional flow-impaired waterways to this list for your consideration, as detailed in the above-cited comment letters.

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[1] Available at: http://www.cacoastkeeper.org/document/ccka-comments-on-2012-303(d)-list.pdf (*see* in particular pages 11-24).
[2] Available at: http://earthlawcenter.org/static/uploads/documents/Flows_hearing_Aug_2012_1.pdf.

We urge the State Water Board to review these and other flow-impaired waters for inclusion on the state's 2012 303(d) list in Category 4C or 5. If an informational hearing is needed to gather more information and support for this action, we also request that the Board notice and hold this hearing expeditiously.

**Benefits of 303(d) Listing of Flow-Impaired Waterways**

1. The Clean Water Act Mandates Identification of Flow-Impaired Waterways on Its 303(d) List

As discussed in more detail in the comment letters referenced above, and reinforced in the state's Listing Policy,[3] Section 303(d)(1)(A) of the Clean Water Act requires states to identify waters for which effluent limitations for specified point sources are not stringent enough after implementation of technology-based controls to implement water quality standards applicable to those waters. In other words, if a water body's standards are not being met in the water body, then it *must* be listed in the state's Section 303(d) list.

Water segments impaired by altered flows at a minimum[4] should be placed in Category 4C, which houses water segments "impaired or affected by non-pollutant related [*e.g.*, "pollution"] cause(s)." Such placement is consistent with the U.S. EPA's 2006 Guidance[5] and will ensure that the waterways appropriately are included on the state's 303(d) list, which in turn will highlight the need for swift action to restore altered flows. Numerous water bodies throughout the state face significant flow impairments, and in many of these, endangered fish and other aquatic species may disappear in our lifetimes. As discussed in more detail below, there is more than enough evidence to list at least several such water bodies that are incontrovertibly impaired by altered flows.

Listing of flow-impaired waterways is a separate and distinct task from determining whether or not total maximum daily loads (TMDLs) are required to address those impairments, as discussed in CWA Section 303(d)(1)(C). Even if TMDLs are not required to be completed for flow-listed waterways, listings for flow will likely precipitate otherwise unavailable flow-related commitments by stakeholders who specifically choose to come to the table because of the flow listings. As was seen in the challenges to the San Joaquin River salinity listing, even the potential for flow-related listings generates significant stakeholder interest that otherwise might not have occurred.

2. 303(d) Listings for Flow Provide Opportunities for Enhanced Funding to Support Restoration

It has been our direct experience (having personally advocated successfully in the state Legislature for funding for impaired waterways) that impaired waterways that are officially and accurately identified on the state's 303(d) list stand significantly higher chances of receiving financial resources for restoration than those not so identified. Conversely, if the State Water Board continues to fail to incorporate existing data that demonstrate serious flow problems, there is far less

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[3] SWRCB, "Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List" (Sept. 2004), p. 1, available at: http://waterboards.ca.gov/water_issues/programs/tmdl/docs/ffed_303d_listingpolicy093004.pdf (Listing Policy).

[4] As noted in the Scoping Comments, California's 303(d) list already includes a small number of waterway segments impaired by altered flows in Category 5.

[5] U.S. EPA, "Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act," p. 56 (July 29, 2005), available at: http://www.epa.gov/owow/tmdl/2006IRG/report/2006irg-report.pdf.

likelihood of building the necessary political capital to achieve restoration funding for waterways requiring assistance.

Now is a particularly important time to act to identify flow-impaired waterways, as the state continues to debate several water bond bills that could be the last state water bond funding for some time.

3. 303(d) Listings for Flow Would Help Begin to Dissolve the False Dichotomy between Water Quality and Waterway Flows

It has been said several times by senior staff that there is a "firewall" between water quality and water flows, including with respect to funding, which in part prevents successful application of the Clean Water Act's 303(d) mandate for flow listings. This is a false dichotomy in science, and need not occur in policy with attention to education and full application of the Clean Water Act. The health of waterways is inextricably linked to the level of contaminants and the volume, frequency, magnitude, timing, and duration of flows. The U.S. Supreme Court specifically weighed in on this matter, finding that "water quantity is closely related to water quality; a sufficient lowering of the water quantity in a body of water could destroy all of its designated uses, be it for drinking water, recreation, navigation, or . . . a fishery."[6] The U.S. Supreme Court further stated unequivocally any distinction between water quality and quantity under the CWA is "artificial."[7]

The U.S. Supreme Court specifically took note of CWA Sections 101(g) and 510(2), which address state authority over the allocation of water as between users. The Court found that these provisions "do not limit the scope of water pollution controls that may be imposed on users who have obtained, pursuant to state law, a water allocation." This conclusion is supported by the "except as expressly provided in this Act" language of Section 510(2), which conditions state water authority; and by the legislative history of Section 101(g), which allows for impacts to individual water rights as a result of state action under the CWA when "prompted by legitimate and necessary water quality considerations."[8] Other states and U.S. EPA Regions have already embraced this direction and protected aquatic beneficial uses through actions that impact flows, as discussed in the attachment.

Listing of waterways impaired by altered flows is not only supported by the Clean Water Act and the U.S. Supreme Court – it also could provide the opening needed for the State Water Board to develop future, holistic regulatory strategies that more effectively ensure the long-term well-being of the state's waterway. For example, the Board could begin consideration of a more holistic and streamlined system of water governance that considers both water flows and water quality together in addressing waterway health. Under such a system, regulators could conceivably

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[6] *PUD No.1 v. Washington Department of Ecology*, 511 U.S. 700, 719 (May 31, 1994).

[7] *Id.*

[8] *Id.* at 720 ("See 3 Legislative History of the Clean Water Act of 1977 (Committee Print compiled for the Committee on Environment and Public Works by the Library of Congress), Ser. No. 95–14, p. 532 (1978) ('The requirements [of the Act] may incidentally affect individual water rights. . . . It is not the purpose of this amendment to prohibit those incidental effects. It is the purpose of this amendment to insure that State allocation systems are not subverted, and that effects on individual rights, if any, are prompted by legitimate and necessary water quality considerations')." *See also* Memorandum from U.S. EPA Water and Waste Management and General Counsel to U.S. EPA Regional Administrators, "State Authority to Allocate Water Quantities – Section 101(g) of the Clean Water Act" (Nov. 7, 1978), available at: http://water.epa.gov/scitech/swguidance/standards/upload/1999_11_03_standards_waterquantities.pdf.

adjust water rights and/or water pollutant discharge requirements within the same regulatory process, depending on the needs of the waterway, its inhabitants, and its users, rather than in a piecemeal manner that fails to reflect the environment as the system that it is.

4. 303(d) Listings for Flow Would Provide Support in State Water Board Waste and Unreasonable Use, Public Trust Doctrine, and other Water Flow-Related Hearings

In addition to ensuring compliance with federal law, another benefit of listing waterways impaired by altered flows is to provide support for current and future State Water Board hearings related to water rights and flows. These may include waste and unreasonable use hearings,[9] public trust doctrine applications, FERC relicensings, dam removals, new water diversion applications,[10] reopening of existing water rights permits, environmental review of water transfers, and other flow-related actions. Formal U.S. EPA adoption of state flow impairment listings will help ease any burden of proof needed in such matters, to the benefit of the impaired waterway.

5. 303(d) Listings for Flow Would Provide Support in Local Land Use and Planning Decisions

Flow listings also lend support at the local level, in addition to state proceedings. For example, CEQA review of local land use and planning activities and processes would need to reference 303(d) listings for flows, and so could prevent worsening of waterway conditions. CEQA reviews could do this by, among other things, requiring local decisionmakers to consider and potentially adopt more protective alternatives and/or mitigation measures to favored projects that would further impact flows in impaired waterways.

6. 303(d) Listings for Flow Would Support Improved Statewide Assessment of Waterway Threats, with Accompanying Increased Efficiencies in Waterway Protection and Restoration

The USGS reports that hydrologic alteration is the primary threat to waterways nationwide, but that data is lost in California, which does not track flow impairments. Instead, low flow-related pollutants such as temperature, bacteria and sediments appear to be top impairments, when in fact the chief culprit impairing the waterways' beneficial uses may be flow. California currently had no readily accessible, statewide database of the challenges waterways face with respect to reduced flows. This significant gap could begin to be corrected with a comprehensive 303(d) flow listing database.

**Actions in Other States to List Waterways Impaired by Altered Flows**

The many benefits of listing waters as impaired by flow have already been recognized by other states, who are already well into programs for listing and addressing waterways impaired by altered flow. As of the August 2012 informational hearing on this matter, U.S. EPA had compiled nationwide data showing that 50,660 miles of rivers and streams, 548,980 acres of lakes, reservoirs and ponds, 299 square miles of bays and estuaries, and 32,660 acres of wetlands nationwide have

[9] *See, e.g.,* http://www.waterboards.ca.gov/board_info/agendas/2011/jan/011911_12_reasonableusedoctrine_v010611.pdf.

[10] For example, Santa Barbara Channelkeeper reports that even though the Ventura River is over-allocated, new water rights permits are still being written for it.

already been listed on states' 303(d) lists as impaired by flow alterations.[11] This corresponds to listings for at least 136 water body segments nationwide in states including Idaho, Michigan, Montana, Ohio, Tennessee, Wyoming, and even California.[12] Additional listings are likely to have been approved since then as states complete their 2012 listing cycles.

We provided to State Water Board members and senior staff last fall the attached summary of the details of listing process in other states, including staff contact information and the processes that each state has used to identify flow-impaired waterways. This summary provides invaluable information to State Water Board staff investigating the mechanics of a similar listing process here in California. We urge staff to reach out to their colleagues in other states on this matter; we have personally found them to be more than happy to discuss their work.

We have also provided to the State Water Board in a separate context a summary of these and other states' use of the Clean Water Act to address flow issues more generally (*i.e.*, outside of 303(d) listings), including memoranda by U.S. EPA Regions 1 and 4 in support of the application of the Clean Water Act to flows.[13] This analysis provides further support for State Water Board members and senior staff to seek compliance with the Clean Water Act through listing of flow-impaired waterways in California. If staff contacts at these EPA Regions are desired, we would be pleased to provide them.

**Shortlist of California Waterways Severely Impaired by Altered Flows**

Senior staff and Board members have indicated that listing should be done to solve a problem. As described above, there are numerous benefits to listing that will together help solve the state's undeniable problem with flow-impaired waterways. This is most particularly true for the "shortlist" waterways described in the enclosed attachment, which are as follows:

> Scott River, Shasta River, Eel River, Mattole River, Napa River, Mark West Creek, San Joaquin River (inflow to the Delta), San Francisco Bay-Delta (outflow to Suisun Bay and San Francisco Bay), Salinas River, and Santa Clara River.

Listing these flow-impaired waterways on the 2012 Section 303(d) list will provide help to these waters immediately, at a minimum in terms of preventing existing problems from worsening until staff time and attention can be focused on them. Without the listings, many of the waterways will have to wait many years, as is currently projected with a number of the ongoing public trust doctrine and flow criteria/objective processes. For example, Board staff informed assembled North Coast advocates that water rights staff who had ostensibly been allocated to the North Coast had

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[11] *See* U.S. EPA, "Specific State Causes of Impairment That Make Up the National Flow Alteration(s) Cause of Impairment Group," available at: http://iaspub.epa.gov/tmdl_waters10/attains_nation_cy.cause_detail?p_cause_group_name=FLOW%20ALTERATION%28S%29. *See also* details of flow impairment listings at U.S. EPA, "Impaired Waters, Cause of Impairment Group: Flow Alteration(s)," available at: http://iaspub.epa.gov/tmdl_waters10/attains_impaired_waters.control?p_cause_group_id=545.

[12] *See* U.S. EPA, "Watershed Assessment, Tracking and Environmental Results: Specific State Causes of Impairment That Make Up the National Flow Alteration(s) Cause of Impairment Group," available at: http://iaspub.epa.gov/tmdl_waters10/attains_nation_cy.cause_detail_303d?p_cause_group_id=545.

[13] Letter from Earth Law Center to SWRCB, "Comments on Bay-Delta Plan SED" (March 2013), Attachments, available at: http://earthlawcenter.org/static/uploads/documents/Bay-Delta_Plan_Comments_2.pdf.

been refocused on the Delta, with a potential date of 2018 before they could be reallocated back to the North Coast. Listing waterways as flow impaired now will bring much-needed interim relief to prevent further degradation, and potentially bring stakeholders to the table who otherwise would have sidelined themselves until state staff refocuses their attention.

Finally, the question has been raised to us with regard to listing waterways impaired by altered flow where there are no adopted flow criteria, with the suggestion that the state wait on listing until such criteria are adopted. For the waterways listed in the attachment, this is not an issue, as their flow is so low (for some, down to zero for a significant portion of the year) that impairments are clear. Numerous beneficial uses throughout the state imply a certain amount of flows to support that use – including aquatic habitat, fisheries, endangered species protection, and many others. If these uses are impaired, and flows are part of the problem (which is certainly the case for the waterways in the attachment), the waterways must be listed for altered flow. This is particularly true for water bodies for which instream flow needs have already been scientifically determined by agency processes, such as by the State Water Board in its August 2010 report on the Bay-Delta process,[14] by the Department of Fish and Wildlife,[15] and by the state's Ocean Protection Council,[16] among others.

Listing of the above "shortlist" waterways is required by the Clean Water Act and consistent with California's Section 303(d) Listing Policy, which requires identification of waters for which effluent limitations for specified point sources are not stringent enough after implementation of technology-based controls to implement water quality standards applicable to those waters.[17] The Listing Policy reinforces that "RWQCBs and SWRCB shall actively solicit, assemble, and consider all readily available data and information," including "submittals resulting from the solicitation, selected data possessed by the RWQCBs, and other sources."[18] The Listing Policy adds that, "[a]t a minimum, readily available data and information includes .... [d]ilution calculations, trend analyses, or predictive models for assessing the *physical*, chemical, or biological condition of streams, rivers, lakes, reservoirs, estuaries, coastal lagoons, or the ocean . . . ."[19] In other words, physical conditions such as flow are specifically contemplated in the Listing Policy.

Further the Listing Policy includes "listing factors" for which "[w]ater segments shall be placed on the section 303(d) list."[20] Factors include pollutant-related violations of standards, including pollutants that have been concentrated to levels that violate standards as a result of low flows. Adding flows to the 303(d) list for such segments complements the listing of such pollutants, and provides important and necessary information about the nature of the impairments at issue. Moreover, even where there are no pollutant listings for waterways impaired by altered flows, the Listing Policy still contemplates listing of flow-impaired waterways. Specifically, it states that:

> When all other Listing Factors do not result in the listing of a water segment but information indicates non-attainment of standards, a water segment shall be evaluated to determine

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[14] Available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/final_rpt080310.pdf.
[15] *See* http://www.dfg.ca.gov/water/instream_flow.html.
[16] *See* Instream Flow Analysis projects at: http://www.opc.ca.gov/category/projectsbytopic/.
[17] Listing Policy at 1.
[18] *Id.* at 17 (emphasis in original).
[19] *Id.* (emphasis added).
[20] *Id.* at 4.

whether the weight of evidence demonstrates that a water quality standard is not attained. If the weight of evidence indicates non-attainment, the water segment shall be placed on the section 303(d) list.[21]

That is, where beneficial uses are impaired due to altered flows, "the water segment shall be placed on the 303(d) list," regardless of whether TMDLs are required to be developed. The numerous other benefits of listing flow-impaired waterways, as described above, demonstrates that full compliance with the federal Clean Water Act will prevent further harm to already flow-impaired waterways and lead to improvements in their health.

* * *

Our laws and policies reflect our priorities as a society. To survive and flourish in the face of increasing pressures on the state's water system, California must adopt and implement laws and policies that reflect the simple fact that we must learn to live within our water means. Identification of waterways threatened or impaired by altered flows (as required by the Clean Water Act) is the first, and critical, step in this process. Such formal identification will recognize the impacts of our flawed water use practices, help advance implementation of holistic governance tools, and assist with the evolution of needed governance alternatives.

For the reasons described above, we urge the State Water Board to take action now to begin listing waterways impaired by altered flows. We stand ready to assist with this critical effort, along with a vibrant coalition of fishing groups, watershed groups, scientists, tribes and community members. Thank you.

Sincerely,

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Attachment 1 – *Summary of flow listing efforts in other states, provided Fall 2012*
Attachment 2 – *Detailed "shortlist" of flow-impaired waters*

[21] *Id.* at 8.

# ATTACHMENT 1 *

## *Attachment from May 15, 2013 letter from ELC and CCKA to the State Water Board

## 303(d) Listings for Flow in States Other Than California (Fall 2012)

U.S. EPA has compiled nationwide data showing that 50,660 miles of rivers and streams, 548,980 acres of lakes, reservoirs and ponds, 299 square miles of bays and estuaries, and 32,660 acres of wetlands nationwide have already been listed on states' 303(d) lists as impaired by flow alterations.[22] These listings span multiple states nationwide, and include California.[23]

The data on each state with a listing program for altered flows is provided below. Messages have gone out to the contacts in each of the states below with regard to exactly how they identify waterways impaired by altered flow for listings.

Phone conversations have already occurred with Ohio, Tennessee, Michigan, Wyoming and Idaho.

Both **Ohio** and **Tennessee** use biological criteria to raise a red flag on flows, and then look more deeply to see if flows are a problem for flagged waterways (especially where there are dams). If so, then altered flow is listed as a "cause" of the impairment in the flagged waterway segments. Tennessee also has a narrative flow criterion that they apply. Note in particular that the Tennessee contact volunteered that "**our job is to recognize impairment,**" even where they cannot act on it, such as is the case for irrigated agriculture under TN state law. This is one of the key messages of the 2010 Scoping Comments to the State Water Board - *i.e.,* altered flow listings must be made if the impairment exists, regardless of the next steps.

In **Wyoming**, most listings start with identification of higher sediment levels than would be expected (because flow moves sediment). Listings in both states are on a case-by-case basis with no formal adopted process.

A similar process is followed in **Idaho**, where most listings start with identification of sediment or temperature issues, which are then followed by examination of structural issues. While Idaho also does not have a formal process and instead uses case-by-case determinations, it also uses US EPA Assessment Database definitions of flow-related impairment "causes" in the categories of: low flow alterations, other flow regime alterations, physical substrate habitat alterations, and high flow regimes.

By contrast, **Michigan** focuses on listing waterways as impaired by altered flows where they see channelization and drain/ditch issues, as described in more detailed below.

An email exchange that occurred with **Vermont** is summarized below as well; their listing methodology attached separately.

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[22] *See* U.S. EPA, "Specific State Causes of Impairment That Make Up the National Flow Alteration(s) Cause of Impairment Group," available at: http://iaspub.epa.gov/tmdl_waters10/attains_nation_cy.cause_detail?p_cause_group_name=FLOW%20ALTERATION%28S%29. *See also* details of flow impairment listings at U.S. EPA, "Impaired Waters, Cause of Impairment Group: Flow Alteration(s)," available at: http://iaspub.epa.gov/tmdl_waters10/attains_impaired_waters.control?p_cause_group_id=545.

[23] *See* http://www.waterboards.ca.gov/water_issues/programs/tmdl/docs/303dlists2006/epa/r4_06_303d_reqtmdls.pdf (showing listings caused by "pumping" and "water diversion" in Ventura River Reaches 3 and 4, and by "hydromodification" and "tidal flushing" in Ballona Creek Wetlands). *See also* U.S. EPA, "Watershed Assessment, Tracking and Environmental Results: Specific State Causes of Impairment That Make Up the National Flow Alteration(s) Cause of Impairment Group," available at: http://iaspub.epa.gov/tmdl_waters10/attains_nation_cy.cause_detail_303d?p_cause_group_id=545.

This memo will be updated as additional conversations are had. Contacts are provided in the event State Board staff wish to reach out personally. Finally, please note that (as referenced below under TN) there is a **US EPA Region 4 water quality standards meeting** in Atlanta **August 28th-30th** that includes a discussion of a **narrative flow criterion** for listing purposes (such as is used in Tennessee).

**Idaho**

5485 river/stream miles, 85,729 lakes/reservoirs/ponds acres – http://ofmpub.epa.gov/waters10/attains_state.control?p_state=ID

The State of Idaho is currently listing for flow alteration in their Integrated Report. Idaho references the data relevant to the water body listed in their fact sheets as "data showed that flow is altered, *i.e.* many of man's activities in the lower watershed contribute to degradation of flow and habitat condition."

"Category 4C: Water bodies impaired by pollution (*e.g.*, flow alteration and habitat alteration) but not pollutants. According to EPA, water bodies impaired by pollution do not require development of a TMDL." - http://www.deq.idaho.gov/media/725927-2010-integrated-report.pdf

> "Category 4C—Waters of the State Not Impaired by a Pollutant
> Impaired water bodies are placed in Category 4c if the impairment is not caused by a pollutant but rather caused by pollution, such as flow alteration or habitat alteration. Water bodies placed in Category 4c do not require the development of a TMDL. (For additional information on the differences between pollutants and pollution, see "Pollutants" and "Pollution," page 13). The number of unique AUs currently listed in Category 4c is 408 out of 5,746 total AUs statewide. There are 7,155 miles of rivers and 85,729 acres of freshwater lakes that are impaired by pollution but not by a pollutant. The list of Category 4c AUs can be viewed in Appendix I."

Nicole – Idaho relies in part on how US EPA defines impairment "causes" in EPA's Assessment Database (ADB). There are four flow-related "causes" of impairment: low flow alteration, other flow regime alterations, high flow alterations, and physical substrate/habitat alterations. They are defined as follows in US EPA's ADB:

| CAUSE NAME | CAUSE DESCRIPTION |
|---|---|
| **Low Flow Alterations** | **Low flow alterations (anthropogenic sources, e.g., diversions or subsurface drainage).** Federal Interagency Stream Restoration Working Group (ISRWG). 1998 (Updated 2001). Stream Corridor Restoration: Principles, Processes, and Practices. By the Federal Interagency Stream Restoration Working Group (FISRWG)(15 Federal agencies of the US gov't). GPO Item No. 0120-A; SuDocs No. A 57.6/2:EN 3/PT.653 |
| **Other Flow Regime Alterations** | **Other flow regime alterations (anthropogenic sources, e.g., decrease in flood pulses due to hydrostructures).** Federal Interagency Stream Restoration Working Group (ISRWG). 1998 (Updated 2001). Stream Corridor Restoration: Principles, Processes, and Practices. By the Federal Interagency Stream Restoration Working Group (FISRWG)(15 Federal agencies of the US gov't). GPO Item No. 0120-A; SuDocs No. A 57.6/2:EN 3/PT.653 |
| **Physical Substrate Habitat Alterations** | **Physical substrate habitat alterations (e.g., fines embedding cobbles).** Federal Interagency Stream Restoration Working Group (ISRWG). 1998 (Updated 2001). Stream Corridor Restoration: Principles, Processes, and Practices. By the Federal Interagency Stream Restoration Working Group (FISRWG)(15 Federal agencies of the US gov't). GPO |

**High Flow Regime** **High Flow Regime**

Impairments related to flows usually are associated with some type of structure. Idaho staff evaluate what is going on in an area before they decide to list (i.e., "is there a dam," etc.). Almost all of the AUs impaired for flow are also impaired by other, pollutant causes (such as sediment) for which the TMDLs are developed. E.g., if staff find temperature elevations in an AU right below a dam, they also look at the structure of the dam, where the water is being released, etc. (Staff states that flow and habitat alteration are often co-existent with pollutants amenable to TMDLs.) Out of 408 unique AUs, 9.1% are Category 4C (flow or habitat) only; i.e. are not listed in any other categories (e.g. no pollutants identified). There is no formal state guidance on listing under Category 4C; it is case-by-case, usually triggered by initial sediment or temperature issues (as is the case for some other states).

Contact: Nicole Deinarowicz, (208) 373-0591, nicole.deinarowicz@deq.idaho.gov

**Michigan**

9 river/stream segments listed for flow alteration as a cause of impairment (2008) - http://ofmpub.epa.gov/waters10/attains_state.report_control?p_state=MI&p_cycle=2008&p_report_type=T

2012 draft 303(d) list to US EPA – "Category 4c: Impairment is not caused by a pollutant (e.g., impairment is due to lack of flow or stream channelization)." - http://www.michigan.gov/documents/deq/wrd-swas-draft-2012IR_370366_7.pdf. See "Table 9.7 Michigan river and stream miles not supporting designated uses listed by cause of impairment" - 3,529 river miles listed for flow alteration as a cause of impairment

The Michigan Legislature passed Public Act 33 in 2006. This is the first Michigan state law to regulate water withdrawal. The objective of this Act was to prevent any large withdrawal (generally referring to withdrawal that average more than 100,000 gallon of water (0.1547 $ft^3/s$) in any consecutive 30- day period] from causing an adverse resources impact. The median streamflow for the summer month of lowest flow was specified by state decision makers as the index flow on which likely impacts of withdrawals would be assessed. At sites near long-term streamflow-gauging stations, analysis of streamflow records during July, August, and September was used to determine the index flow. At ungauged sites, an alternate method for computing the index flow is based on a regression model that computes the index water yield, which is the index flow divided by the drainage area. The Michigan Department of Environmental Quality listed 7,000 miles of rivers and streams for flow alteration on the 2008 303(d) list based on these criteria. A formal process to improve the flow in these water bodies has yet to be implemented.

Kevin Goodwin – Reports in phone call that Michigan does not have a specific listing process for waters impaired by altered flow. He states that the vast majority of the listings are related to maintained drains/ditches/channels (agricultural and others). If staff sees channelization, they look for altered flows. He said that there are some altered flow listings related to urban stormwater, but most are associated with maintained drains and ditches.

Contacts: Kevin Goodwin with Michigan DEQ (517-335-4185, goodwink@michigan.gov)
Surface Water Assessment Section, Water Resources Division

**Montana**

6530 river/stream miles, 20,034 lakes/reservoirs/ponds acres listed for flow alteration as a cause of impairment - http://ofmpub.epa.gov/tmdl_waters10/attains_index.control?p_area=MT#total_assessed_waters

"A large percent of Montana waters fall within the pollution category, i.e., Category 4C. Typically, water quality restoration plans include both TMDLs for pollutant-caused impairments and restoration goals and objectives for pollution-caused impairments. This allows DEQ to identify and recommend improvements that address all impairment causes within a watershed." Integrated Report: http://cwaic.mt.gov/wq_reps.aspx?yr=2010qryId=76990

Contact: 406-444-3409

**Ohio**

85 water body segments for which flow alteration is listed as a cause of impairment: http://ofmpub.epa.gov/waters10/attains_state.report_control?p_state=OH&p_cycle=2008&p_report_type=T

Final 2012 report: http://www.epa.ohio.gov/dsw/tmdl/2012IntReport/index.aspx

Beth Risley: Ohio identifies impaired waters based on biology; they have adopted criteria for various biological communities. If sampling shows that the communities are not meeting these goals, they then identify causes and sources of impairment (*e.g.* if they see dams, they have a long history of evidence of dams impairing biology and so they will list for flow alteration). The listing process itself for aquatic life use is available in Section G of the 2012 Integrated Report: http://www.epa.ohio.gov/portals/35/tmdl/2012IntReport/IR12SectionGfinal.pdf. There is also an overview of the biological assessment process here: http://www.epa.ohio.gov/dsw/bioassess/ohstrat.aspx. That page also goes into the overall approach in Ohio. (Note that Ohio EPA is in the process of updating its web pages and there may be some significant changes in early September. All links will be redirected to appropriate pages, but these particular links may no longer be active; contact Beth if not.)

Contact: Beth Risley, TMDL Coordination
Ohio EPA, Division of Surface Water
beth.risley@epa.state.oh.us, (614) 728-2384

**Tennessee**

Flow alterations as cause of impairment – 453 miles rivers/streams, 11,444 acres of lakes/reservoirs/ponds - http://ofmpub.epa.gov/waters10/attains_state.control?p_state=TN

Draft 2012 list: http://www.tn.gov/environment/wpc/publications/pdf/2012_draft_303d_list.pdf - "As with the 2010 list, Tennessee has used Category 4C for segments impacted by flow alteration ."

Greg Denton – Tennessee bases the listing assessment on their **narrative flow criterion**, which gives TN the authority to consider flow as an impairment. **The criterion states that "flows shall support the beneficial uses."** The state has used this since the mid-90s roughly, and has decided against a more specific numeric formula or criterion. Greg states that U.S. EPA is supportive of TN's approach and talking about a similar criterion to be adopted in the other

Southern states; in fact, **there is a water quality standards meeting in Atlanta August 28th-30th that includes this flow criterion on the Agenda**.

Greg states that they start the process with their biological surveys; if the stream fails the biologic criteria, then they look at data as to causes and sources. They especially look carefully below dams, and if it looks as the waterway has been impaired by dam, it is listed as flow impaired. TN does habitat surveys at the same time as the biologic surveys, and they also look for signs that the flow is low in these surveys. Dams are not the only source of flow-caused impairments though; he states that agricultural diversions of water can pump stream dry and the state doesn't have recourse due to an irrigated agriculture exemption in their state agricultural code (just downstream neighbors have recourse, through a lawsuit. Greg states specifically that **"Our job is to recognize impairment,"** so they list as flow impaired even if they cannot act against the farmers.

Contact: Greg Denton, (615) 532-0699

**Vermont**[24]

Integrated Report: http://www.vtwaterquality.org/mapp/docs/305b/mp_305b-2012.pdf - "In Vermont, so-called altered waters are those where water quality impairments exist due to non-pollutants. These occur on the Vermont Parts E, **F**, and G lists (exotic species, **flow**, and geomorphic alteration, respectively), and **all are analogous to EPA 'Category 4C**.' This report also provides a tabular assessment of waters by EPA reporting category." The most recent statewide water quality assessment indicates that biological condition does not meet water quality standards in over 6,000 acres of lake waters (~11% of inland lake acres) due to flow alteration, while a further 4,400 acres exhibit stress. For streams, the biological condition fails to meet water quality standards in over 210 miles (~4% of biologically assessed streams) due to flow alteration, while a further 70 miles exhibit stress.

Cathy Kashanski: "Below is a link to our water quality standards where on pages 24 – 26 particularly we address hydrology.
http://www.anr.state.vt.us/dec/waterq/erp/docs/erp_wqs.pdf
Attached [separately] is our Assessment and Listing Methodology that describes where flow is used in judging support or not of a designated use in surface waters.
If you have questions after looking at these, you can give me a call or you could also call Brian Fitzgerald of our Streamflow Protection Section. Essentially each two year period, we ask Brian to review the F List and update it so his knowledge is where the rubber meets the road in terms of determining flow alteration (read 'impairment but not by a pollutant')."

Contacts: Cathy Kashanski, (802) 338-4843, cathy.kashanski@state.vt.us
Brian Fitzgerald, 802-338-4852, brian.fitzgerald@state.vt.us

**Washington**

The Washington Department of Ecology listed 49 streams in 1998 under Section 303(d) because based on the information collected by other agencies flows were inadequate to support designated instream water uses such as fish. The streams listed in the 1998 303(d) list were moved to the

[24] "If there is no minimum flow requirement in place it is calculated on the basis of the7Q10 flow value or at the absolute low flow value resulting from flow regulation, whichever is less, unless an alternative flow statistic is specified in their Water Quality rules."
http://water.epa.gov/scitech/swguidance/standards/wqslibrary/upload/2008_12_09_standards_wqslibrary_vt_vt_1_wqs.pdf.

new subcategory 4C (impaired by a non-pollutant) when the US EPA Guidance for preparing Integrated Report became available in 2004. These streams are generally expected to be addressed in the future through the establishment, protection and restoration of stream flows.

**Wyoming**

Waterways impaired by flow alterations are listed in Category 4C:
http://deq.state.wy.us/wqd/watershed/Downloads/305b/2012/WY2012IR.pdf (46 stream miles).
Examples:

"Tongue Sub-basin (HUC 10090101) – Monitoring by WDEQ (2009) on Soldier Creek spanning the years 1998-2003 showed that the aquatic life other than fish use is impaired from PK ditch downstream to the confluence with Goose Creek and supported from PK ditch upstream to the headwaters of the creek. Because the impairment is thought to be caused by flow alterations in the watershed, the segment was placed in category 4C in 2010 and a TMDL is not necessary."
"Upper Big Horn Sub-basin (HUC 10080007) – WDEQ (2003, 2005) monitoring indicates that the aquatic life other than fish use is not supported in the upper Grass Creek watershed, a tributary to Cottonwood Creek. However, because this reach is impacted by flow alterations rather than a pollutant, it does not require a TMDL and has been placed in Category 4C."
"Bighorn Lake Sub-basin (HUC 10080010) – Crooked Creek flows into Wyoming from Montana and then flows into Big Horn Lake. Monitoring by WDEQ (2005) shows that its aquatic life other than fish uses are fully supported from an irrigation diversion in SWNW Section 29, T58N, R95W upstream to the Montana state line. However, de-watering downstream of this diversion have impaired the aquatic life other than fish use, and this reach was been placed in Category 4C in 2005 (Waters where use(s) are not supported, but a TMDL is not necessary."
"Glendo Sub-basin (HUC10180008) – habitat degradation and a lack of perennial flows from the confluence with Spring Creek downstream approximately 7.3 miles prevent Horseshoe Creek from supporting its aquatic life other than fish and cold water fisheries uses. The habitat degradation appears to be primarily related to changes in flow regime in this reach, but heavy livestock grazing in some areas may also contribute. As a result, Horseshoe Creek was added to Category 4C in 2004 and is impaired but does not require a TMDL."

Richard Thorp – Reports in phone call that there is not a specific process for listing waters impaired by altered flows, and that the listings instead are on a case-by-case basis. He states that in many instances, the listings start with staff identifying higher sediment levels. In that situation, they look for dewatering (because flow moves sediment) and associated degree of flow alteration. They have water diversion data, and so they examine that to assess whether there is a significant enough problem with flow alteration to list (again, case-by-case determination of how much is enough). He reports that they have a high bar for data and weight of evidence requirements through its "credible data law," which makes their listing decisions easier to defend.

Contact: Richard Thorp, Department of Environmental Quality, Water Quality Division (307)-777-3501, richard.thorp@wyo.gov

**District of Columbia**

9 water segments impaired by flow alterations (16.5 river/stream miles) -
http://ofmpub.epa.gov/tmdl_waters10/attains_index.control?p_area=DC
2012 Integrated Report – Table 3.7 -
http://ddoe.dc.gov/sites/default/files/dc/sites/ddoe/publication/attachments/2012%20IR%206-19-2012.2.pdf
Contact: Lucretia Brown, lucretia.brown@dc.gov

# ATTACHMENT 2 *

***Attachment from May 15, 2013 letter from ELC and CCKA to the State Water Board**

# Ten California Waterways Being Drained Dry

## Using the Clean Water Act to Resuscitate Disappearing Waterways

In August 2010, environmental, tribal, and fishing groups submitted more than one thousand pages of detailed studies, data, and analysis to inform the Board's development of the 2012 Clean Water Act Section 303(d) List. As detailed in that letter, and at the August 2012 Water Board informational item on this matter, California is legally required to include on its Section 303(d) list *all* of the waterways for which "readily available" data indicate impairment, including impairments due to alterations in natural flow.

Other states have begun this essential task of identifying water bodies impaired by altered flows, with support by U.S. EPA. Within California, U.S. EPA's Bay Delta Action Plan[i] anticipates flow listings, noting that "identifying those impairments and identifying the cause (whether it is a "pollutant" for purposes of Section 303(d) or some other cause) is a critical part of the Clean Water Act response to the Estuary's problems."

Given California's current struggles with water, and the challenges to come with climate change, every tool must be used to prevent further damage and to restore degraded waterways to full health. California must begin a process of identifying and listing flow-impaired waterways in its 2012 303(d) list, as detailed in our 2010 scoping letter and the 2012 flows listing informational hearing.

To help begin this Board effort, we have developed a shortlist of waterways that are clearly and incontrovertibly impaired, and for which low flows are so clearly a cause that there are no reasonable arguments against their 303(d) listing for flow, in either Category 4C or 5. Preference was given in this initial shortlist to mainstem waterways as opposed to tributaries, as mainstem flow issues are more likely to impact entire watersheds and regions. At a minimum, these critically impaired waterways should be included on the draft 2012 303(d) List and released for public review at Regional and State Water Board hearings.

We worked closely with local groups to create this list based on the following criteria, among others:[ii]

a. Significant data was submitted by August 2010 as part of the CWA 2012 303(d) scoping process, or is otherwise readily available (e.g., such as in government databases), and demonstrates altered flows such that impairment could not be dismissed as either naturally occurring or episodic.
b. Local stakeholders are invested in the health of the waterway, and could inform and participate in restoration of the health of the listed waterway.
c. Prior formal recognition of flow issues with the waterway by State Water Board, Department of Fish and Wildlife, or other state or local agencies.
d. Ongoing or potential injury to threatened or endangered species.
e. Waterways within the National or California Wild and Scenic River System, or Class I streams (habitat for fishery resources) or Class II streams (habitat for aquatic non-fish vertebrates and/or aquatic benthic macroinvertebrates).
f. Waterways where listing would help prevent waste, unreasonable use or unreasonable method of use of water, or unreasonable diversion or method of diversion of water.

Listed from north to south, our proposed "top ten" candidates for which altered flow is a basis for listing on California's 2012 Section 303(d) List are as follows:

1. **Scott River** (Region 1) Sections of the Scott River are completely dewatered during summer months, while other sections are severely flow-impaired. Adjudicated water rights alone are sufficient to allow complete dewatering of the Scott River during the summer and early fall. In

addition, a shift from surface diversions, which are naturally self-limiting, to groundwater wells has made worse the apparent over-appropriation of water in the watershed.[iii, iv]

2. **Shasta River** (Region 1) The hydrology of the Shasta River is strongly affected by surface water diversions, groundwater pumping, and Dwinnell Dam. Seven major diversion dams and numerous smaller structures located on the Shasta River substantially and rapidly reduce flows in the main stem when they are in operation. In addition, Dwinnell Dam, located at about river mile 40, has dramatically altered the flow regime in all seasons of the main stem river. During various times of the year, no water is released from Dwinnell Dam for fish in the Shasta River. These flow alterations have adversely affected salmonid populations in the river.[v]

3. **Eel River** (Region 1) Historic land use, including pervasive logging and road construction that reduced shade, vastly increased sedimentation and altered hydrology and soils, is exacerbated in many areas by unregulated dry-season diversions related to marijuana cultivation. As a result, Eel River and its tributaries suffer from low flows that often produce temperatures lethal to listed fish species.[vi]

4. **Mattole River** (Region 1) A detailed study of the Mattole River Basin found that lack of adequate late summer and early fall stream flow is recognized as one of the most important limitations on salmonid habitat in the Mattole River basin. In recent years, juvenile salmonids have become stranded in pools due to excessively low flows, causing mortality and necessitating fish rescue operations.[vii]

5. **Mark West Creek** (Region 1) Ten years ago all 28 miles of Mark West Creek had water in the summer. Today, because of increased diversions, only approximately 3½ miles have water. Mark West Creek provides important habitat to steelhead trout and endangered coho salmon, whose populations are being adversely affected by elevated water temperatures.

6. **Napa River** (Region 2) Numerous studies referenced in the development of AB 2121 Instream Flow Guidelines for Northern Coastal Streams, among other places, illustrate the significantly degraded habitat of the Napa River, which can only be restored with a focus on reversing severely reduced natural flows.[viii]

7. **San Joaquin River, inflow to the Delta** (Region 5)[ixx] The San Joaquin River was selected as a shortlist priority in light of the data contained in the proceedings being held on potential revisions to the Bay-Delta Water Quality Control Plan to increase flows from the San Joaquin River into the Delta. Current flows are wholly inadequate, as the state and federal wildlife agency, EPA, and NGO analyses show (as well as the SWRCB's own analyses and peer reviews).

8. **San Francisco Bay-Delta, outflow to Suisun Bay and San Francisco Bay** (Region 5) In addition to the above information, one of the key findings of the SWRCB's 2010 Public Trust flows report is that Delta outflow is significantly impaired, and that substantially greater outflow is needed to protect Public Trust fishery populations. This is especially true in the spring and fall months. Consideration should also be given to listing other portions of the Delta as flow-impaired, again in light of the data/information and agency processes described above.

9. **Salinas River** (Region 3) "Channel alteration and changes in flow regime have caused a virtual loss of the anadromous life history of three steelhead in the Salinas River." More generally, "flows in lower reaches for adult and juvenile steelhead passage are often lacking," with "[g]roundwater pumping related to agricultural activities . . . caus[ing] the loss of surface flow in winter and spring."[xi] This detailed analysis concluded that "unless the Salinas River channel and flow move back towards their more normal range of variability, steelhead cannot be restored."

10. **Santa Clara River** (Region 3) The Santa Clara River is Southern California's last major free flowing waterway and is home to 17 species listed as threatened or endangered under the state and federal Endangered Species Acts. At River mile 10.5, United Water Conservation District (United) diverts almost all of the River's flows outside of large storm events. United, USGS, and local agency data show that water diverted at the Vern Freeman Diversion Dam for agricultural usage, groundwater recharge, and other uses, deprive migrating steelhead of sufficient flows and juvenile steelhead of healthy estuary rearing grounds.[xii] In addition to impacting beneficial uses associated with the provision of adequate steelhead habitat, surface water withdrawals also destroy downstream native riparian and endangered bird habitat, degrade the ecological integrity of the River's estuary, and impair a plethora of cultural and recreational beneficial uses downstream.

## Contacts for Additional Data & Information

(1) and (2): for Scott and Shasta River and other flow listings in the Klamath Basin, contact Konrad Fisher (konrad@klamathriver.org) at Klamath Riverkeeper or Craig Tucker (ctucker@karuk.us) with the Karuk Tribe.

(3): for Eel River listing, contact Zeke Grader (zgrader@ifrfish.org) with PCFFA, Darren Mierau (dmierau@caltrout.org) with CalTrout, or Scott Greacen (scott@eelriver.org) with Friends of the Eel River.

(4): for Mattole River listing, contact Brian Johnson (bjohnson@tu.org) with Trout Unlimited or Hezekiah Allen (Hezekiah@mattole.org) with Mattole Restoration Council.

(5) and (6): for Sonoma waterways, contact Don McEnhill (don@russianriverkeeper.org) with Russian Riverkeeper.

(7) and (8): for San Joaquin River and Delta, contact (among others) Bill Jennings (deltakeep@aol.com) with California Sportfishing Protection Alliance or Zeke Grader (zgrader@ifrfish.org) with PCFFA.

(9): for Salinas River, contact Steve Shimek (exec@montereycoastkeeper.org) with Monterey Coastkeeper.

(10): for Santa Clara River, contact Jason Weiner (jweiner.venturacoastkeeper@gmail.com) with Ventura Coastkeeper, Ron Bottorff (bottorffm@verizon.net) with Friends of the Santa Clara River or Cameron Yee (cyee@causenow.org) with CAUSE.

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[i] U.S. EPA. August 2012. Water Quality Challenges in the San Francisco Bay/Sacramento-San Joaquin Delta Estuary: EPA's Action Plan, p. 9, *available at* http://www2.epa.gov/sites/production/files/documents/actionplan.pdf.

[ii] Criteria 4-6 are taken from the State Water Board's AB 2121 Enforcement Priorities, Appendix G, available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/instream_flows/docs/ab2121_0210/adopted050410instreamflowpolicy.pdf.

[iii] National Research Council (NRC). 2004. Endangered and Threatened Fishes in the Klamath River Basin – Causes of Decline and Strategies for Recovery. The National Academies Press, Washington, DC.

[iv] S.S. Papadopulos & Associates Inc. 2012. Groundwater Conditions in Scott Valley, California. Report prepared for the Karuk Tribe, Happy Camp, CA.

[v] Lestelle, L. 2012. Effects of Dwinnell Dam on Shasta River salmon and considerations for prioritizing recovery actions. Report prepared for the Karuk Tribe, Happy Camp, CA.

[vi] Higgins, Patrick, Consulting Fisheries Biologist. Feb. 2010. Evaluation of the Effectiveness of Potter Valley Project National Marine Fisheries Service Reasonable and Prudent Alternative (RPA): Implications for the Survival and Recovery of Eel River, Coho Salmon, Chinook Salmon, and Steelhead Trout.

[vii] Klein, Randy D., Hydrologist. March 2007. Hydrologic Assessment of Low Flows in the Mattole River Basin 2004-2006, p. 1.

[viii] Letter from Patrick Higgins, Consulting Fisheries Biologist to SWRCB. April 2, 2008. *Comments on Draft Policy for Maintaining Instream Flows in Northern California Coastal Streams,* pp. 13-15 (in Appendix A).

[ix] For both of the Region 5 sets of waterways, there are agency processes ongoing to address flow issues. However, the lengthy time frame and uncertain future of these processes, and the sensitive and declining health of these waterways, demands that we use all available tools to (at a minimum) prevent waterway health from deteriorating further as these processes play out. Formal listing as "flow impaired" on the 303(d) list would provide invaluable assistance in this regard.

[x] Based on the agency, NGO and academic testimony presented at the State Board's 2010 "Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem" hearing and State Board's Phase I SED hearing, as well as Fish and Wildlife's 2010 "Quantifiable Biological Objectives and Flow Criteria for Aquatic and Terrestrial Species of Concern Dependent on the Delta," we believe the Merced, Tuolumne, Stanislaus and San Joaquin Rivers would all qualify to be listed as flow impaired.

[xi] *Id.*

[xii] Letter from Jason Weiner, Ventura Coastkeeper to Jeffrey Shu, SWRCB. Aug. 30, 2010. Public Solicitation of Water Quality Data and Information for 2012 Integrated Report.

# ATTACHMENT B

August 8, 2014

John W. Corbett, Chair, and Board Members
North Coast Regional Water Quality Control Board
5550 Skylane Blvd., Suite A
Santa Rosa, CA 95403
***Via Electronic Mail:*** patti.corsie@waterboards.ca.gov

**Re: Comment Letter – Resolution No. R1-2014-0043 and Staff Report for the 2012 Integrated Report for the Clean Water Act Section 305(b) Surface Water Quality Assessment and the 303(d) List of Impaired Waters**

Dear Chair Corbett and North Coast Regional Water Board Members:

We are writing in response to the recent release of proposed Resolution No. R1-2014-0043 (Resolution) and the "Staff Report for the 2012 Integrated Report for the Clean Water Act Section (CWA) 305(b) Surface Water Quality Assessment and the 303(d) List of Impaired Waters" (Staff Report). The undersigned organizations have been actively involved in the 2012 Integrated Report process for four years and welcome the opportunity to comment here. We incorporate by reference our April 1, 2014 comment letter written to Chair Marcus and the State Water Resources Control Board (State Water Board) and copied to North Coast Regional Water Quality Control Board (North Coast Board) Executive Officer Matthias St. John.

We welcome the Resolution's direction to "coordinate with the Division of Water Rights on the development of flow objectives or other flow criteria, as appropriate" (¶ 11), in combination with the recent North Coast Board scoping for a flow (hydrology) objective as part of the 2014 Triennial Review of the North Coast Water Quality Control Plan.

However, we continue to question the fact that the proposed Staff Report identifies no water bodies as impaired due to altered flow. The North Coast Board has sufficient information to move forward on flow listings now, not years in the future, particularly with respect to the Scott and Shasta Rivers. Water segments that are impaired by altered flow should be placed in

Category 4c, which is for water segments "impaired or affected by non-pollutant related [*i.e.*, 'pollution'] cause(s)." While the Staff Report asserts that a formal methodology is necessary to determine whether flow is a "cause" of or "factor" contributing to impairment, if a waterway is completely or nearly dewatered, arguing that flow is a merely a "factor" contributing to impairment collides with the facts of impairment. Moreover, flow can be *both* a contributing source of impairment (*e.g.*, for temperature impairment) *and* a cause of impairment – just as is the case for pollutants. As described in a May 15, 2013 comment letter first submitted to the State Water Board, and later submitted to the North Coast Board as part of NGO comments on the draft 303(d) List,[1] other states regularly make flow impairment listings without a statewide policy specific to this particular impairment, and so can California.

As described in the above-referenced May 15th letter, there are a number of benefits associated with identifying waterways as impaired due to altered flow, in addition to closer compliance with the Clean Water Act. First, flow impairment identification will allow for higher prioritization of identified, impaired waterways on lists of bond and other funds earmarked for restoration of impaired waters. Second, flow impairment identification can ease the burden of proof in state regulatory processes that can address flow needs, such as waste and unreasonable use hearings and public trust doctrine applications. Third, flow impairment identification can support better local land use and planning decisions by requiring decisionmakers to consider flow impacts in CEQA assessments. Finally, flow impairment identification allows the state to better track and highlight the primary causes of waterway impairment. For example, USGS reports that "hydrologic alteration" is the primary threat to waterways nationwide, but that data is lost in California, which does not track flow impairments. These and other benefits are not realized by merely (and incorrectly) identifying flow as only a factor that contributes to pollutant impairments.

In addition to these practical benefits, delaying action until there is a formal methodology solely for flows is also inconsistent with the facts and the Listing Policy. As to the latter, the State Water Board's decision to include a "weight of evidence" approach in the Listing Policy[2] *already* provides a statewide approach to address flow-impaired waterways, one that is consistent with the approaches used in many other states. With respect to the former, the Staff Report specifically found that readily available information on the Scott and

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[1] Letter from Earth Law Center and California Coastkeeper Alliance to SWRCB, "Inclusion of Impairments Due to Low Flow in the California 2012 Section 303(d) List" (May 15, 2013), available at: http://www.earthlawcenter.org/static/uploads/documents/303d_listings_letter_May_15_2013_1.pdf. For example, Ohio and Tennessee use biological criteria to raise a red flag on flow, then conduct a deeper investigation to determine if there is a flow impairment (particularly where there are dams). Wyoming usually identifies higher sediment levels than would be expected, then makes listings on a case-by-case basis with no formal adopted process. Idaho starts most listings by identifying sediment or temperature issues, then examines structural issues, and finally makes a decision on a case-by-case basis. Michigan focuses on listing waterways as impaired by altered flow when staff observe channelization and drain/ditch issues.

[2] The Listing Policy states that "When all other Listing Factors do not result in the listing of a water segment but information indicates non-attainment of standards, a water segment shall be evaluated to determine whether the weight of evidence demonstrates that a water quality standard is not attained. If the weight of evidence indicates non-attainment, the water segment *shall* be placed on the section 303(d) list" (emphasis added). SWRCB, "Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List" (Sept. 2004), p. 8, available at: http://waterboards.ca.gov/water_issues/programs/tmdl/docs/ffed_303d_listingpolicy093004.pdf (Listing Policy).

Shasta Rivers *does* indicate flow impairment – yet neither is identified as impaired. For other, low flow waterways, the Staff Report found that "the information and data submitted [...] did not include enough information to meet all the criteria [...]." However, "*all* existing and readily available water quality-related data and information"[3] – which requires going beyond consideration of submitted data – must be considered, especially in light of the now six-year time frame for the biennial listing cycle.

A statewide policy for identifying flow impairments for the 303(d) list, if developed by the State Water Board for close cases (*i.e.*, unlike the Scott and Shasta Rivers), must comply with the letter and intent of CWA Section 303(d) to serve as a backstop to protect waterways where pollution controls fail to protect beneficial uses. Particularly in light of the state's significant deviation from the federally mandated, biennial 303(d)/305(b) report schedule, any decisionmaking structure to identify flow-impaired waterways must err on the side of recognizing and listing threatened and impaired waterways, rather than erecting further roadblocks to identifying and restoring essential flows. Delays for the development of a flows listing policy would interfere with the need to immediately identify the most egregious cases of water bodies impaired due to altered flow, including the Scott and Shasta Rivers.

Finally, we would like to respond to the Staff Report's assertions in Appendix IV that "[t]he Clean Water Act Section 303(d) List identifies only those waters that are impaired by pollutants, as defined in CWA Section 502(6). Altered flow is considered a condition of pollution, not an impairment caused by a pollutant, and therefore is not a part of the 303(d) List." CWA Section 303(d)(1)(A) establishes the requirements for the 303(d) list as follows:

> Each state shall identify those waters within its boundaries for which the effluent limitations required by section 301(b)(1)(A) and section 301(b)(1)(B) are not stringent enough to implement any water quality standard applicable to such waters. The State shall establish a priority ranking for such waters, taking into account the severity of the pollution and the uses to be made of such waters.

In other words, if (after the identified Section 301 pollution controls are put in place) a water body's water quality standards are not being met, then "those waters" "shall" be identified under Section 303(d) – regardless of whether due to pollutant or pollution. Indeed, Section 303(d)(1)(A), which mandates such identification of impaired waters, includes only the word "pollution." The word "pollutant" does not become relevant until Section 303(d)(1)(C), which addresses total maximum daily loads (TMDLs). Identifying a waterway as flow impaired under Category 4c is thus consistent with inclusion on the Section 303(d) list, which by the CWA's own language encompasses "pollution."

The identification of flow-impaired waterways under Section 303(d)(1)(A) is a separate and distinct task from determining whether or not TMDLs are required to address those impairments. This latter task is described in CWA Section 303(d)(1)(C) as follows:

> Each State shall establish for the waters identified in paragraph [303(d)](l)(A)] of this subsection, and in accordance with the priority ranking, the total maximum daily load, for those pollutants which the Administrator identifies ... as suitable for such

[3] 40 C.F.R. § 130.7(b)(5) (emphasis added).

calculation….

Unlike Section 303(d)(1)(A), Section 303(d)(1)(C) does specifically reference "pollutants," but in the context of developing a TMDL only. In other words, Section 303(d) of the CWA requires states to identify all impaired waterways – whether impaired by pollution or pollutants – and then to take that list and develop TMDLs for the pollutant impairments on the list. Several states (including Michigan and Tennessee) recognize this, and place waterways impaired by altered flow in their 303(d) List under Category 4c. California also can and should choose to include flow impairments under Category 4c in its Section 303(d) list – and at a minimum must specifically identify flow-impaired waterways as such in the state's overall Integrated Report.

Finally, the Staff Report states that, if a statewide flow listing methodology is put in place, North Coast staff will consider recommending flow-altered waterways be included in Category 4c in the next (2018) Integrated Report cycle. Even if the target date can be achieved, which is uncertain given past delays, 2018 is too long to wait to begin identifying waterways that are clearly flow-impaired now. If listed, the benefits of such identification can begin almost immediately to protect such waters and the fish that depend on them, while other processes (such as flow objectives) move forward. We accordingly urge the appropriate identification of flow-impaired waterways in this listing cycle.

Thank you for your attention to these comments.

Sincerely,

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# Clean Water Act Section 303(d) and 305(b) Listings of Impaired Waters: Ten Examples

## SUMMARY

This document provides excerpts from Clean Water Act Section 303(d) and 305(b) reports for ten sample states listing waterways as impaired due to causes related to altered flows.[1] These states, and others that identify waterways as impaired by flow-related alterations, recognize the importance of accurately reflecting waterway health status as required by Section 303(d)(1)(A).[2]

A summary of the attached excerpts is provided below, with "prior appropriation" water law states in **bold**. Note that "Category 4C" (also "4c") refers to a US EPA-created category of water segments impaired by "pollution" (*e.g.*, flows) as opposed to "pollutants" (*e.g.*, chemical constituents). "Category 5," which refers to impairments due to "pollutants" that need TMDLs, is typically, though not always, used synonymously with the Section 303(d) list. As addressed below and illustrated in the pages to follow, state approaches to listing flow alterations as a "cause" (rather than merely a "source") of impairment can vary as follows:

- Flow on 303(d) list on its own merit: list flow impairments as part of the state's Section 303(d) list solely on the merit of a waterway's 4C identification as a cause of impairment; that is, whether alone *or* in combination with a pollutant impairment (Tennessee)[3];
- Flow on 303(d) list *if* there is also an impairing pollutant present: list flow impairments as a cause of impairment on the "303(d) list" (Ohio) or on the "Category 5/303(d)" list (New

[1] Other states with flow-related listings include but are not necessarily limited to: Maryland, Nebraska, New York and Washington D.C. (D.C. lists flow impairments on its 303(d) list of impaired waters rather than the 305(b) list).

[2] Section 303(d)(1)(A): "Each state shall identify those waters within its boundaries for which the effluent limitations … are not stringent enough to implement any water quality standard applicable to such waters. The State shall establish a priority ranking for such waters, taking into account the severity of the *pollution* and the uses to be made of such waters." (Emphasis added.) Note that Section 303(d)(1)(A) refers to "pollution," calling into question the assumption that the list excludes impairments due to flow, also labeled "pollution." By contrast, Section 303(d)(1)(C) focuses on determining whether or not TMDLs are required to address pollutant-related impairments ("Each State shall establish for the waters identified in paragraph [303(d)](l)(A)] of this subsection, and in accordance with the priority ranking, the total maximum daily load, for those pollutants which the Administrator identifies … as suitable for such calculation….). Accordingly, the states identified in this document at a minimum recognize that they must identify *all* impaired water bodies comprehensively, and that the identification of impairments for TMDL purposes is a separate task. Tennessee (and Washington D.C.) also appropriately recognize that flow impairments should be on the "Section 303(d)" list, as per Section 303(d)(1)(A). For more information on the requirements under federal Clean Water Act Section 303(d) to list impaired waters and the utility of such required listings, *see, e.g.,* Comment Letter from Earth Law Center *et al.* to North Coast RWQCB, "2012 Integrated Report for the Clean Water Act Section 305(b) Surface Water Quality Assessment and the 303(d) List of Impaired Waters: (Aug. 8, 2014) (ELC *et al.* Letter); at: http://earthlawcenter.org/static/uploads/documents/303d_Ltr_NorCal_Flows_Res_and_Staff_Rpt.pdf.

[3] As noted above, Washington D.C. also lists flow-impaired waters on its Section 303(d) list.

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Mexico, Michigan) *if* there is also a pollutant impairing the waterway in addition to the flow impairments;

- Flow on 305(b) list: list flow impairments as a cause of impairment, but on the 305(b) rather than the 303(d) list; that is, characterizing both Category 4C and 5 waters as causing beneficial use impairment but distinguishing the 303(d) list for purposes of drafting TMDLs, rather than distinguishing impairment (Idaho, Montana, Vermont, Washington, Wyoming).

Note again that, unlike California (the Los Angeles Region listings excepted), each of these states (including "prior appropriation" water law states) clearly list flow-related alterations as a cause of impairment. The permutations arise from the fact that the states (except Tennessee) reconcile in different ways the language of Section 303(d)(1)(A) versus US EPA guidance setting out categories for the listing process.

As illustrated below, states are using this flow impairment information already, including with respect to setting state priorities for action. For example, Montana and Ohio use their 4C flow impairment data in compiling statistics on statewide sources of impairment, which provides more accurate information on threats to waterway health than in states that fail to include this important information. Vermont compiles the flow impairment information with the status of efforts to address it, as well as a "Projected WQS Compliance Year" for the affected waterways.

Further summary information is provided below, with excerpts from states' reports following. We urge California to follow the lead of these states and identify flow impairments on its Section 303(d) list of impaired waterways. Taking action now on those waters most clearly flow impaired is essential, especially given the fact that we are witnessing biennial reports every six years now instead of every two.

I. **California** – The 2006 California 303(d) list includes Category 5 listings for "water diversion" and "hydromodification" in the Los Angeles region.[4]

II. **Idaho** – Appendix I of the latest Idaho Integrated Report states that "[i]mpaired water bodies are placed in Category 4c if the impairment is not caused by a *pollutant* but rather caused by *pollution*," and contains 36 pages (7,342 river/stream miles) of Category 4c-impaired waters, including numerous waterways listed as impaired due to the cause of "low flow alterations."[5] Appendix J consists of Category 5 waterways, interpreted as a "streamlined" [6] 303(d) list that focuses on the need for TMDLs rather than overall impairments.

III. Michigan – Appendix B, the "Comprehensive List of Assessment Unit Designated Use Support," contains all information on assessment units and is split (for size reasons) into

[4] http://www.waterboards.ca.gov/water_issues/programs/tmdl/docs/303dlists2006/epa/r4_06_303d_reqtmdls.pdf.
[5] https://www.deq.idaho.gov/media/1117323/integrated-report-2012-final-entire.pdf.
[6] *Id.,* p. 35.

Appendices B1 and B2.[7] "Other flow regime alteration" is listed as a cause of impairment for both Category 4c- and Category 5-identified assessment units in Appendix B. Category 4c is defined as water bodies impaired only by pollution, such as low flows. Appendix C, which Michigan interprets to be its 303(d) list, consists of Category 5 assessment units, but does include assessment units that list "other flow regime alterations" as a cause of impairment, where the flow alteration is an impairment cause along with a pollutant cause (*e.g.*, sedimentation/siltation).[8]

IV. **Montana** – Appendix A ("Impaired Waters") of the Integrated Report lists *all* impaired waters in the state, including Category 4c ("waterbodies impaired only by non-pollutant causes") and Category 5 waters; it specifically includes "low flow alterations" and "other flow regime alterations" as causes (not sources) of impairment.[9] Appendix B lists "Waters in need of TMDLs [303(d) list] and TMDL Priority Schedule"; this includes only pollutants, as the focus of the table is on TMDLs.[10] Montana also uses flow impairment data elsewhere; for example, "Low flow alterations" is listed as third in the "Top 10 Causes of Impairment" for all assessment units (AUs) in Montana, with 237 AUs impaired for low flow alteration.[11] This statistic illustrates the utility of collecting flow impairment data in identifying the correct priorities for state action to improve waterway health.

V. **New Mexico** – The "List of Assessed Surface Waters" (Appendix A) identifies impaired waters for every assessment unit as organized by watershed, which includes Category 4c and Category 5 listings. Both Categories include "low flow alterations" as an impairment cause. Flow impairments are included in Category 5 listings as well, and thus on the 303(d) list (*e.g.*, Rito Leche, Rio Bonito), but only where a pollutant is also identified as a cause.[12]

VI. Ohio – Combines Category 4C-listed waters (including those impaired due to "other flow regime alterations") with Category 5 and other categories in single charts, though the text identifies Category 5 as the 303(d) list.[13] Like Montana, Ohio also provides statewide summaries of impairments by cause; for example, "hydromodification" is identified as one of the "top five causes of impairment" for 36% of monitored assessment units with aquatic life impairment (nutrients is first for watershed assessment units).[14] Again, this illustrates

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[7] http://www.michigan.gov/documents/deq/wrd-swas-2012IR-appB1_370329_7.pdf (Appendix B1). http://www.michigan.gov/documents/deq/wrd-swas-2012IR-appB2_370330_7.pdf (Appendix B2).

[8] http://www.michigan.gov/documents/deq/wrd-swas-2012IR-appCdetail_370331_7.pdf ("Appendix C - Assessment units not supporting designated uses (*i.e.* assessment units placed in Category 5")).

[9] http://deq.mt.gov/WQInfo/CWAIC/Reports/IRs/2012/Appendix_A.pdf (2012); http://deq.mt.gov/WQInfo/CWAIC/Reports/IRs/2014/Appendix_A.pdf (draft 2014).

[10] http://deq.mt.gov/WQInfo/CWAIC/Reports/IRs/2012/Appendix_B.pdf.

[11] http://deq.mt.gov/WQInfo/CWAIC/Reports/IRs/2012/Final2012IR.pdf (Table 4-6).

[12] http://www.nmenv.state.nm.us/swqb/303d-305b/2012-2014/AppendixA-USEPA-Approved303dList.pdf.

[13] http://www.epa.ohio.gov/portals/35/tmdl/2012IntReport/IR12SectionL4final.pdf; *see also* http://wwwapp.epa.ohio.gov/gis/mapportal/IR2012.html (the 2014 Integrated Report Map Portal that lists details on the source of 4C impairments, which includes "other flow regime alterations") and www.epa.ohio.gov/portals/35/tmdl/2012IntReport/IR12SectionAfinal.pdf (providing details on flow alteration as a major cause and source of water quality problems).

[14] http://www.epa.ohio.gov/portals/35/tmdl/2012IntReport/IR12SectionGfinal.pdf.

the utility and importance of identifying impairment causes properly, rather than neglecting to list entire categories of impairment causes and potentially identifying state priorities based on inaccurate data.

VII. Tennessee – Definitively and deliberately includes numerous flow-impaired waterways on its 303(d) (*i.e.*, not 305(b)) list), regardless of whether an impairing "pollutant" is also present.[15] Greg Denton at the Division of Water Resources (Gregory.Denton@tn.gov, 615-532-0699) says the state includes flow impairments on the 303(d) list because "[t]he list is supposed to be inclusive of everything we have data to justify." He adds that the public uses the 303(d) list a "quick reference guide as to what is impaired and what is not," which also calls for full listings of all impairment causes. Category 5 identification can still clearly indicate the need for TMDLs, but having all impaired waters in one 303(d) list serves the public interest and the Clean Water Act.

VIII. Vermont – Lists "Impaired Surface Waters in need of TMDL" in Part A, which they identify as their Section 303(d) list.[16] For its Category 4c listings, Vermont lists "Surface Waters Altered by Flow Regulation" in Part F, which includes nine pages of waterways with aquatic habitat or other designated uses for which "one or more designated uses are not supported" due to flow alteration.[17] Vermont identifies the Part F waters as "priority waters for management action," lists management actions to be taken for each where available, and also identifies the "Projected WQS Compliance Year" for each of these flow-impaired waterways.

IX. **Washington** – Lists numerous waterways as impaired due to altered flow under Category 4C[18] in the "303(d)/305(b) Integrated Report" (*e.g.*, there are 55 results when searching within "2012 Category: 4C" for "instream flow").[19] Washington currently recognizes Category 5 as comprising the 303(d) List, with no flow listings in Category 5/303(d). However, the Report notes in the Section 4C portion of the Integrated Report that flow listings had been on the state's earlier Section 303(d) lists (*e.g.*, on the 1998 List) but were moved off the 303(d) list to 305(b) specifically as a result of new US EPA Guidance.[20] In other words, the movement from the 303(d) list was based on a new reporting convention rather than a state legal or factual finding under the Clean Water Act. A quick search of all

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[15] http://www.tn.gov/environment/water/docs/wpc/2012-final-303d-list.pdf.

[16] http://www.vtwaterquality.org/mapp/docs/mp_2012_303d_Final.pdf.

[17] http://www.watershedmanagement.vt.gov/mapp/docs/mp_2012_priority_waters_lists.pdf (2012); http://www.watershedmanagement.vt.gov/mapp/docs/mapp_Part_F_2014_draft_complete.pdf (draft 2014).

[18] *See* http://www.ecy.wa.gov/programs/wq/303d/WQAssessmentCats.html.

[19] http://www.ecy.wa.gov/programs/wq/303d/currentassessmt.html. *See, e.g.,* one such listing at: http://apps.ecy.wa.gov/wats/ViewListing.aspx?LISTING_ID=6212.

[20] *See, e.g.,* http://apps.ecy.wa.gov/wats/ViewListing.aspx?LISTING_ID=6212 ("This listing was on the 1998 303(d) list, but has been moved to the new Category 4C (impaired by a non-pollutant) based on EPA Guidance for preparing the 2004 Integrated Report").

flow listings that had been so moved from the 1998 303(d) list to the current 305(b) list shows 48 separate listings for flow impairments.[21]

X. **Wyoming –** Section 9 of the state's 303(d)/305(b) report, "Surface Water Assessment Results," includes in Section 9.4 "Category 4 Surface Waters"; this section includes listings for "flow alterations" as a cause of impairment.[22] Section 9.5 is the "Category 5 Surface Waters (2012 303(d) List)," which does not include flow because of the state's interpretation of the 303(d) list as the repository for those waterways in need of TMDLs.[23]

[21] This list can be viewed at: http://earthlawcenter.org/static/uploads/documents/WA_1998_Flow_Listings_9-15-2014.pdf. The movement of impaired waters off the impaired waters list raises a question as to the use and application of US EPA guidance. In particular, US EPA regulations or policy cannot contravene the Clean Water Act, as (among other reasons) the Administrative Procedure Act makes clear that rules "found to be . . . in excess of statutory jurisdiction" shall be both held unlawful and "set aside." 5 U.S.C. § 706(2)(C); *see also Nat'l Mining Ass'n v. United States Army Corps of Engrs*, 145 F.3d 1399, 1409 (D.C. Cir. 1998), and *Oregon v. Ashcroft*, 368 F.3d 1118, 1129 (9th Cir. 2004) (quoting *NLRB v. Brown*, 380 U.S. 278, 291-92 (1965)). Arguments as to the reasons that flow impaired waters must be included on states' Section 303(d) lists have been offered at length before the California State Water Resources Control Board and North Coast Regional Water Quality Control Board. *See, e.g.*, ELC *et al.* Letter, *supra* n. 1.

[22] http://deq.state.wy.us/wqd/watershed/Program%20Documents/5.%20Water%20Quality%20Assessments%20&%20Integrated%20Report/Guidance/WY2012IR.pdf.

[23] *Id.*

# I. California

## 2006 CWA SECTION 303(d) LIST OF WATER QUALITY LIMITED SEGMENTS REQUIRING TMDLS

LOS ANGELES REGIONAL WATER QUALITY CONTROL BOARD

USEPA APPROVAL DATE: JUNE 28, 2007

| REGION | TYPE | NAME | CALWATER WATERSHED | POLLUTANT/STRESSOR | POTENTIAL SOURCES | ESTIMATED SIZE AFFECTED | PROPOSED TMDL COMPLETION |
|---|---|---|---|---|---|---|---|
| 4 | C | Ventura Marina Jetties | 40311000 | DDT | Source Unknown | 9.69 Miles | 2019 |
| | | | | PCBs (Polychlorinated biphenyls) | Source Unknown | 9.69 Miles | 2019 |
| 4 | R | Ventura River Estuary | 40210011 | Algae | Nonpoint/Point Source | 0.2 Miles | 2019 |
| | | | | Eutrophic | Nonpoint/Point Source | 0.2 Miles | 2019 |
| | | | | Total Coliform | *Stables and horse property may be the sources).* Nonpoint Source | 0.2 Miles | 2019 |
| | | | | Trash | Nonpoint/Point Source | 0.2 Miles | 2019 |
| 4 | R | Ventura River Reach 1 and 2 (Estuary to Weldon Canyon) | 40210011 | Algae | Nonpoint/Point Source | 4.5 Miles | 2019 |
| 4 | R | Ventura River Reach 3 (Weldon Canyon to Confl. w/ Coyote Cr) | 40210011 | Pumping | Nonpoint Source | 2.8 Miles | 2019 |
| | | | | Water Diversion | Nonpoint Source | 2.8 Miles | 2019 |
| 4 | R | Ventura River Reach 4 (Coyote Creek to Camino Cielo Rd) | 40220021 | Pumping | Nonpoint Source | 19 Miles | 2019 |
| | | | | Water Diversion | Nonpoint Source | 19 Miles | 2019 |

## 2006 CWA SECTION 303(d) LIST OF WATER QUALITY LIMITED SEGMENTS REQUIRING TMDLS

LOS ANGELES REGIONAL WATER QUALITY CONTROL BOARD

USEPA APPROVAL DATE: JUNE 28, 2007

| REGION | TYPE | NAME | CALWATER WATERSHED | POLLUTANT/STRESSOR | POTENTIAL SOURCES | ESTIMATED SIZE AFFECTED | PROPOSED TMDL COMPLETION |
|---|---|---|---|---|---|---|---|
| 4 | R | Arroyo Seco Reach 2 (Figueroa St. to Riverside Dr.) | 40515010 | Coliform Bacteria | Nonpoint Source | 4.4 Miles | 2009 |
| | | | | Trash | Nonpoint Source | 4.4 Miles | 2007 |
| 4 | C | Avalon Beach | 40511000 | Indicator bacteria | *Area affected is between Pier and BB restaurant (213), between Pier and BB restaurant (113), between storm drain and Pier (113), and between BB restaurant and the Tuna Club.* Nonpoint/Point Source | 0.67 Miles | 2019 |
| 4 | R | Ballona Creek | 40513000 | Cadmium (sediment) | Nonpoint/Point Source | 6.5 Miles | 2005 |
| | | | | Cyanide | Source Unknown | 6.5 Miles | 2019 |
| | | | | Silver (sediment) | Nonpoint Source | 6.5 Miles | 2005 |
| 4 | R | Ballona Creek Estuary | 40513000 | Shellfish Harvesting Advisory | Nonpoint/Point Source | 2.3 Miles | 2006 |
| 4 | T | Ballona Creek Wetlands | 40517000 | Exotic Vegetation | Nonpoint Source | 289 Acres | 2019 |
| | | | | Habitat alterations | Nonpoint Source | 289 Acres | 2019 |
| | | | | Hydromodification | Nonpoint Source | 289 Acres | 2019 |

*Page 2 of 50*

**Source**: SWRCB, "2006 CWA Section 303(d) List of Water Quality Impairment"; at: http://waterboards.ca.gov/water_issues/programs/tmdl/docs/303dlists2006/epa/r4_06_303d_reqtmdls.pdf.

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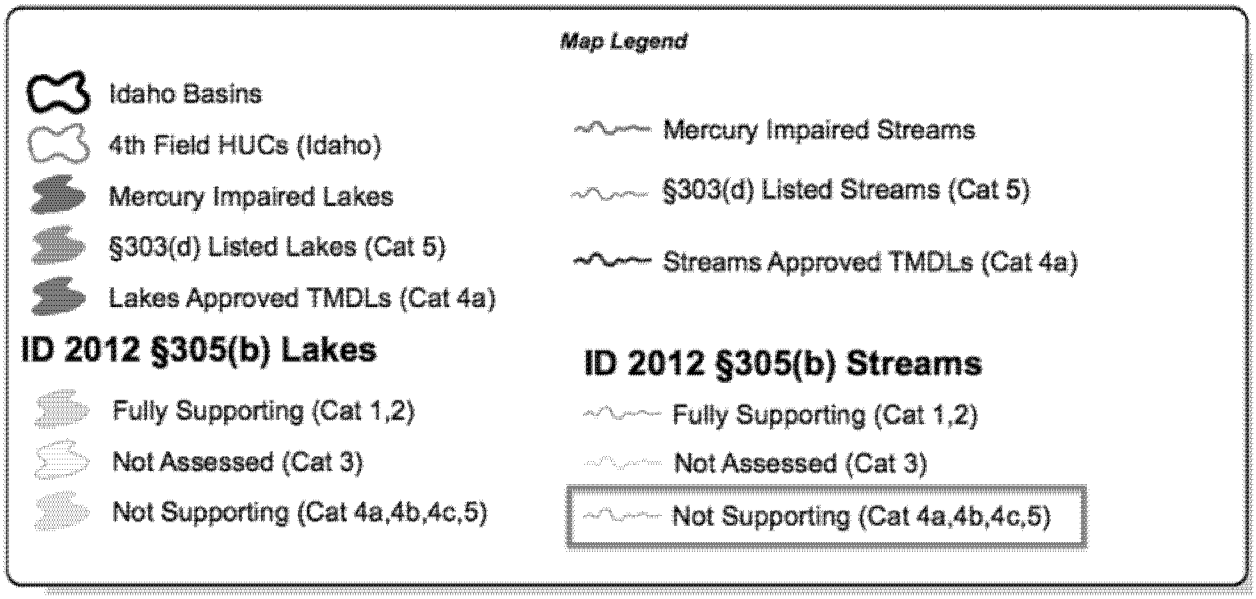
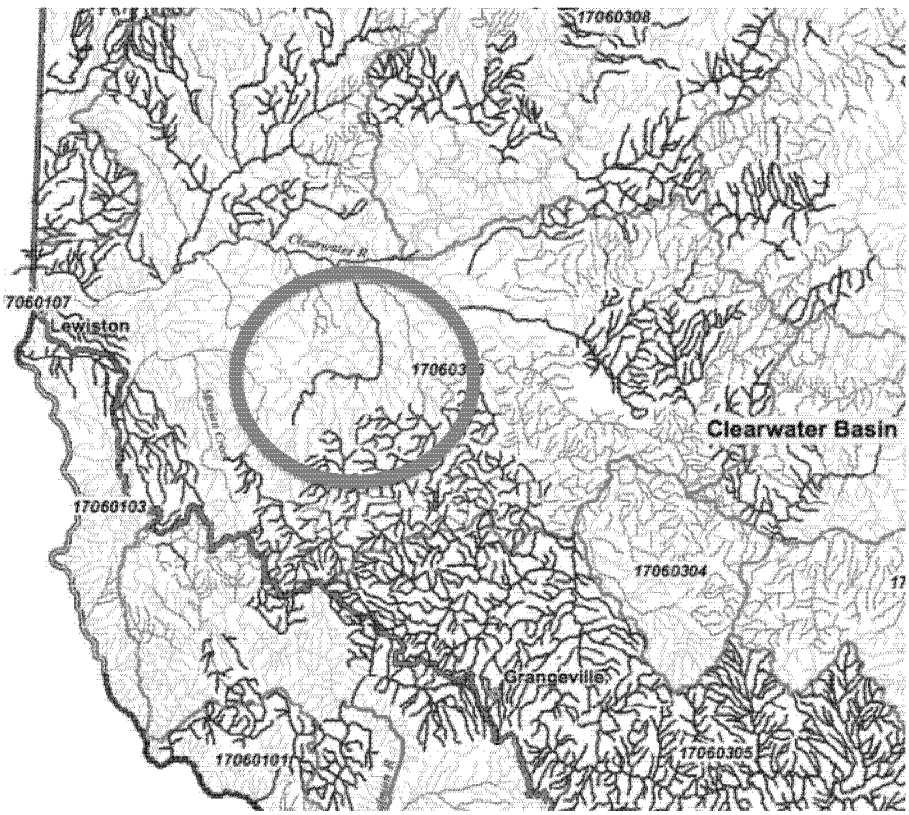
# II. Idaho

*Integrated Map (Non-Interactive)*




**Source:** Idaho Department of Environmental Quality, "2012 Integrated Report Map," at: https://www.deq.idaho.gov/media/1117324/2012-integrated-report-map.pdf.

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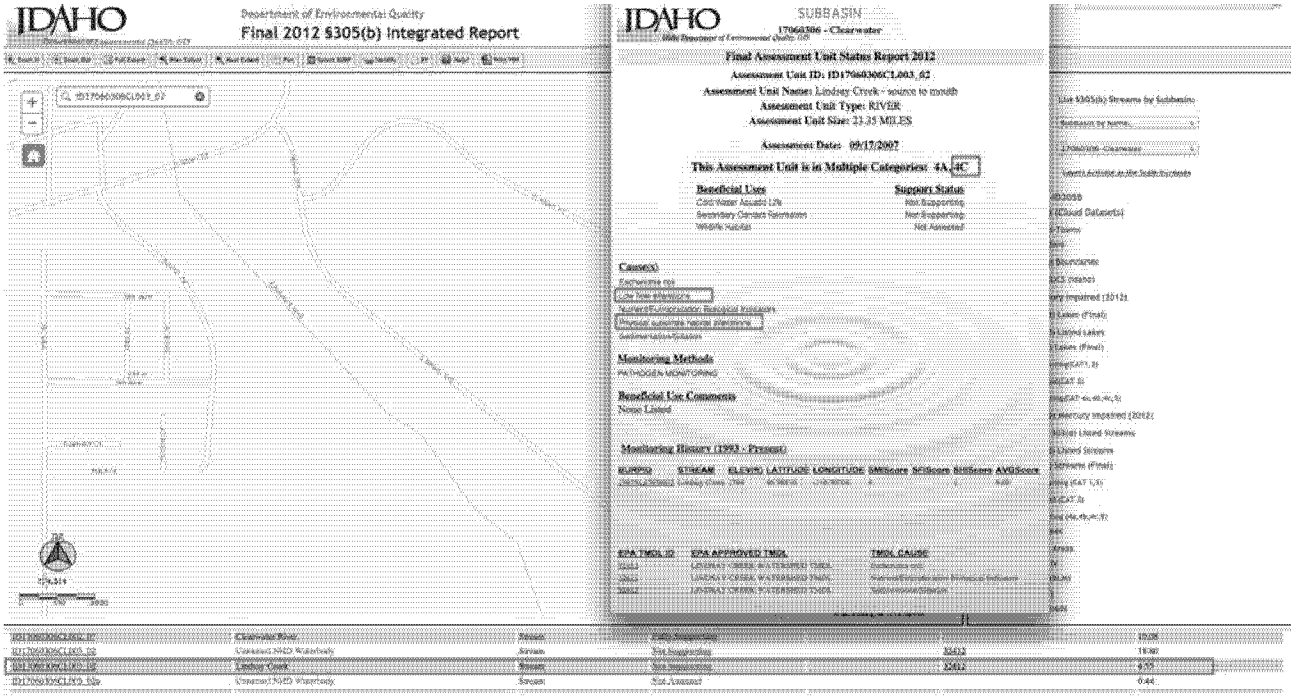
*Integrated Map (Interactive), Idaho (cont'd)*




**Source:** Idaho Department of Environmental Quality, Final 2012 §305(b) Integrated Report (Interactive Map), at: http://mapcase.deq.idaho.gov/wq2012.

## 2012 Integrated Report: Category 4c: Waters Impaired by Pollution, Not a Pollutant

### 2012 Integrated Report: Category 4c: Waters Impaired by Pollution

## Bear River

| | | | |
|---|---|---|---|
| **16010102** | **Central Bear** | | |
| ID16010102BR001_05 | Bear River - Idaho/Wyoming border to railroad bridge | 30.88 | MILES |
| Low flow alterations | In 2006 EPA approved nutrient and sediment TMDLs. No TMDL written for flow alteration per EPA policy that "flow alteration is not a pollutant". | | |
| ID16010102BR002_03 | Pegram Creek - source to mouth | 6.27 | MILES |
| Physical substrate habitat alterations | | | |
| ID16010102BR006_02 | Preuss Creek - USFS boundary to Geneva ditch | 6.03 | MILES |
| Physical substrate habitat alterations | | | |
| **16010201** | **Bear Lake** | | |
| ID16010201BR002_05 | Bear River-railroad bridge (T14N, R45E, Sec. 21) to Ovid Cr. | 55.45 | MILES |
| Low flow alterations | | | |
| ID16010201BR006_03 | Lower Stauffer Creek - Spring Creek to Bear River | 4.14 | MILES |
| Low flow alterations | | | |
| Physical substrate habitat alterations | | | |
| ID16010201BR018_0La | Indian Creek | 5.77 | MILES |
| Low flow alterations | | | |
| Physical substrate habitat alterations | | | |
| ID16010201BR022_03a | Lower Georgetown Creek - left hand fork to mouth | 3.91 | MILES |
| Physical substrate habitat alterations | | | |
| **16010202** | **Middle Bear** | | |
| ID16010202BR002_04 | Cub River - Maple Creek to Border | 3.94 | MILES |
| Low flow alterations | | | |
| Other flow regime alterations | | | |
| ID16010202BR003_03 | Cub River - Sugar Creek to Maple Creek | 5.28 | MILES |
| Other flow regime alterations | | | |
| ID16010202BR006_06 | Bear River-Oneida Narrows Reservoir Dam to Idaho/Utah border | 36.08 | MILES |
| Low flow alterations | | | |
| ID16010202BR007_02a | Strawberry Creek | 10.37 | MILES |
| Low flow alterations | | | |
| Physical substrate habitat alterations | | | |
| ID16010202BR009_06 | Bear River - Alexander Reservoir Dam to Densmore Creek | 15.56 | MILES |
| Other flow regime alterations | | | |



**Source:** Idaho Department of Environmental Quality, "2012 Integrated Report," at: https://www.deq.idaho.gov/media/1117323/integrated-report-2012-final-entire.pdf. (*Note*: There are 36 pages of Category 4c listings in the Integrated Report.)

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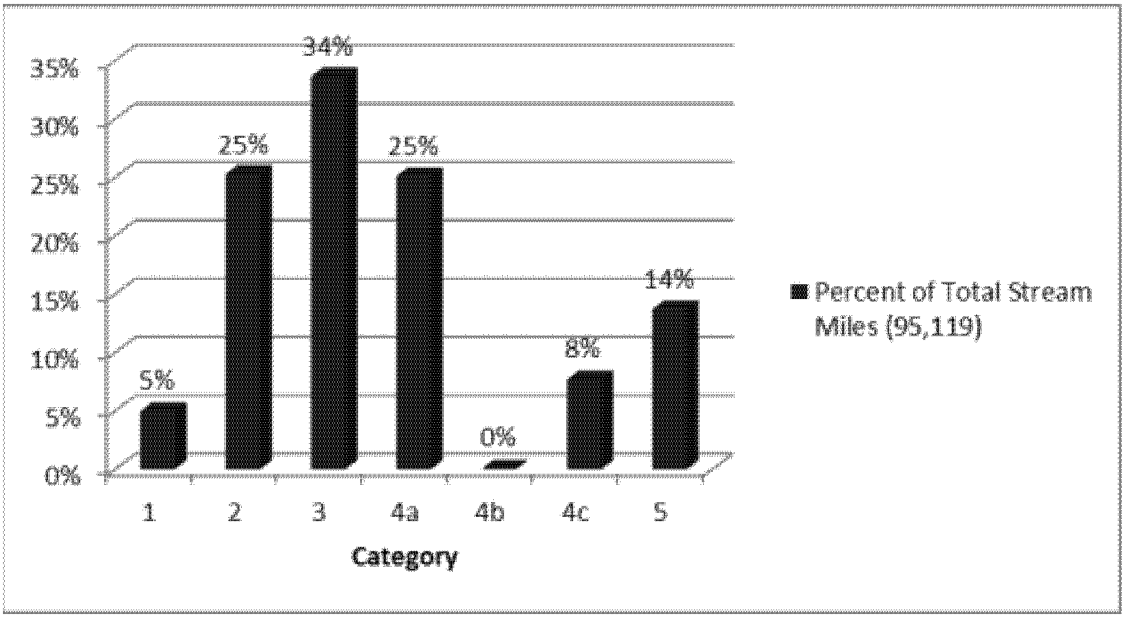
**Table A. Category summary for streams and rivers.**

| Category | Miles | Number of Assessments Units |
|---|---|---|
| Category 1 | 4,751 | 370 |
| Category 2 | 23,888 | 1,241 |
| Category 3 | 32,034 | 1,567 |
| Category 4a | 23,894 | 2,324[a] |
| Category 4b | 51 | 4[a] |
| Category 4c | 7,342 | 547[a] |
| Category 5 | 13,237 | 977[a] |

[a] AU-cause combinations




**Source:** Idaho Department of Environmental Quality, "2012 Integrated Report," at: https://www.deq.idaho.gov/media/1117323/integrated-report-2012-final-entire.pdf.

# III. Michigan

Appendix B - Comprehensive list of assessment unit designated use support. This list is organized by 8, 10, and 12 digit HUCs. Additional information is provided for assessment units not supporting designated uses. For Category 4a the TMDL completion date is provided. For Category 4b the expected to attain by date is provided. For Category 4c the 'Pollutant ?' field is blank. For Category 5 the TMDL schedule is provided.

8 Digit HUC: 04050001 St. Joseph

AUID: 040500010105-04 Rivers/Streams in HUC 040500010105 RIVER 17.798556 MILES

Includes: Fisher Creek from Marble Lake confluence upstream to headwaters.

| Designated Use | Use Support | Cause | Pollutant? | TMDL Schedule | TMDL Completion | Expected to Attain |
|---|---|---|---|---|---|---|
| Total Body Contact Recreation | Not Assessed | | | | | |
| Partial Body Contact Recreation | Not Assessed | | | | | |
| Navigation | Fully Supporting | | | | | |
| Industrial Water Supply | Fully Supporting | | | | | |
| Agriculture | Fully Supporting | | | | | |
| Warm Water Fishery | Not Supporting | Other anthropogenic substrate alterations | | | | |
| Warm Water Fishery | Not Supporting | Other flow regime alterations | (This is Category 4c) | | | |
| Other Indigenous Aquatic Life and Wildlife | Fully Supporting | | | | | |
| Cold Water Fishery | Not Assessed | | | | | |
| Fish Consumption | Not Supporting | PCB in Fish Tissue | Y | 2013 | | |
| Fish Consumption | Not Supporting | PCB in Water Column | Y | 2013 | | |

AUID: 040500010105-05 FIRST LAKE QUINCY PARK BEACH AND LAKE SHORELINE 0.2 MILES

First Lake, 301 Lake Blvd., Coldwater, Michigan

| Designated Use | Use Support | Cause | Pollutant? | TMDL Schedule | TMDL Completion | Expected to Attain |
|---|---|---|---|---|---|---|
| Total Body Contact Recreation | Insufficient Information | | | | | |
| Partial Body Contact Recreation | Fully Supporting | | | | | |
| Navigation | Fully Supporting | | | | | |
| Industrial Water Supply | Fully Supporting | | | | | |
| Agriculture | Fully Supporting | | | | | |
| Warm Water Fishery | Not Assessed | | | | | |
| Other Indigenous Aquatic Life and Wildlife | Not Assessed | | | | | |
| Cold Water Fishery | Not Assessed | | | | | |
| Fish Consumption | Not Assessed | | | | | |

AUID: 040500010105-NAL Unassessed Lakes in HUC 040500010105 FRESHWATER LAKE 91.181523 ACRES

Lakes only 'assessed' for Navigation, Agriculture, and Industrial Water Supply

| Designated Use | Use Support | Cause | Pollutant? | TMDL Schedule | TMDL Completion | Expected to Attain |
|---|---|---|---|---|---|---|
| Total Body Contact Recreation | Not Assessed | | | | | |
| Partial Body Contact Recreation | Not Assessed | | | | | |
| Navigation | Fully Supporting | | | | | |
| Industrial Water Supply | Fully Supporting | | | | | |
| Agriculture | Fully Supporting | | | | | |
| Warm Water Fishery | Not Assessed | | | | | |
| Other Indigenous Aquatic Life and Wildlife | Not Assessed | | | | | |
| Cold Water Fishery | Not Assessed | | | | | |
| Fish Consumption | Not Assessed | | | | | |



**Source:** Michigan DEQ, "Appendix B - Comprehensive List of Assessment Unit Designated Use Support," at: http://www.michigan.gov/documents/deq/wrd-swas-2012IR-appB1_370329_7.pdf. (*Note*: There are many more examples of 4c listings in the "Comprehensive List of Assessment Unit Designated Use Support.")

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8 Digit HUC: 04060105 Boardman-Charlevoix

12 Digit HUC: 040601050507 Broadman River

AUID: 040601050507-01 Rivers/Streams in HUC 040601050507 RIVER 4.140817 MILES
Includes: Kids Creek

| Designated Use | Use Support | Cause | Pollutant? | TMDL Schedule | TMDL Completion | Expected to Attain |
|---|---|---|---|---|---|---|
| Other Indigenous Aquatic Life and Wildlife | Not Supporting | Other anthropogenic substrate alterations | Y | 2013 | | |
| Other Indigenous Aquatic Life and Wildlife | Not Supporting | Other flow regime alterations | Y | 2013 | | |
| Other Indigenous Aquatic Life and Wildlife | Not Supporting | PCB in Water Column | Y | 2013 | | |
| Other Indigenous Aquatic Life and Wildlife | Not Supporting | Sedimentation/Siltation | Y | 2013 | | |
| Fish Consumption | Not Supporting | PCB in Water Column | Y | 2013 | | |

AUID: 040601050507-03 Rivers/Streams in HUC 040601050507 RIVER 6.977377 MILES
Includes: Kids Creek

| Designated Use | Use Support | Cause | Pollutant? | TMDL Schedule | TMDL Completion | Expected to Attain |
|---|---|---|---|---|---|---|
| Other Indigenous Aquatic Life and Wildlife | Not Supporting | PCB in Water Column | Y | 2013 | | |
| Fish Consumption | Not Supporting | PCB in Water Column | Y | 2013 | | |

AUID: 040601050507-04 Rivers/Streams in HUC 040601050507 RIVER 4.230916 MILES
Includes: MILLER CREEK

| Designated Use | Use Support | Cause | Pollutant? | TMDL Schedule | TMDL Completion | Expected to Attain |
|---|---|---|---|---|---|---|
| Other Indigenous Aquatic Life and Wildlife | Not Supporting | PCB in Water Column | Y | 2013 | | |
| Fish Consumption | Not Supporting | PCB in Water Column | Y | 2013 | | |

AUID: 040601050507-05 BASS LAKE FRESHWATER LAKE 273.7868 ACRES
SW of Traverse City.

| Designated Use | Use Support | Cause | Pollutant? | TMDL Schedule | TMDL Completion | Expected to Attain |
|---|---|---|---|---|---|---|
| Fish Consumption | Not Supporting | Mercury in Fish Tissue | Y | 2013 | | |

AUID: 040601050507-06 Rivers/Streams in HUC 040601050507 RIVER 29.631949 MILES
Includes: Boardman River, Beltner Creek and Jack's Creek

| Designated Use | Use Support | Cause | Pollutant? | TMDL Schedule | TMDL Completion | Expected to Attain |
|---|---|---|---|---|---|---|
| Other Indigenous Aquatic Life and Wildlife | Not Supporting | PCB in Water Column | Y | 2013 | | |
| Fish Consumption | Not Supporting | PCB in Water Column | Y | 2013 | | |

AUID: 040601050507-07 SILVER LAKE FRESHWATER LAKE 569.3184 ACRES
6 miles SW of Traverse City.

| Designated Use | Use Support | Cause | Pollutant? | TMDL Schedule | TMDL Completion | Expected to Attain |
|---|---|---|---|---|---|---|
| Fish Consumption | Not Supporting | Mercury in Fish Tissue | Y | 2013 | | |

AUID: 040601050507-08 Rivers/Streams in HUC 040601050507 RIVER 3.518203 MILES
Includes: Boardman River

| Designated Use | Use Support | Cause | Pollutant? | TMDL Schedule | TMDL Completion | Expected to Attain |
|---|---|---|---|---|---|---|
| Other Indigenous Aquatic Life and Wildlife | Not Supporting | PCB in Water Column | Y | 2013 | | |
| Fish Consumption | Not Supporting | PCB in Water Column | Y | 2013 | | |

04060105 Boardman-Charlevoix

**Source:** Michigan DEQ, "Appendix C - Assessment Units Not Supporting Designated Uses (i.e. assessment units placed in Category 5)" [303(d) List], at: http://www.michigan.gov/documents/deq/wrd-swas-2012IR-appCdetail_370331_7.pdf. (*Note*: There are many more examples of flow alteration listings in this 303(d) List.)

# IV. Montana

**Appendix A: Impaired Waters**

**HUC** 10020007 Madison **Watershed** Upper Missouri Tribs.

| TMDL Planning Area | ID305B | Waterbody Name/Location | Category | Size | Units | Use Class | AqL | AG | DW | Rec | Cause Name | Source Name |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Madison | MT41F004_020 | O'DELL SPRING CREEK, headwaters to mouth (Madison River) | 5 | 13.03 | MILES | B-1 | P | F | N | F | High Flow Regime<br>Other anthropogenic substrate alterations<br>Physical substrate habitat alterations | Grazing in Riparian or Shoreline Zones<br>Habitat Modification - other than Hydromodification<br>Impacts from Hydrostructure Flow Regulation/modification<br>Irrigated Crop Production<br>Source Unknown |
| Madison | MT41F004_040 | INDIAN CREEK, Lee Metcalf Wilderness boundary to mouth (Madison River) | 4C | 6.34 | MILES | B-1 | P | F | F | P | Low flow alterations | Impacts from Hydrostructure Flow Regulation/modification<br>Irrigated Crop Production |
| Madison | MT41F004_050 | JACK CREEK, headwaters to mouth (Madison River) | 5 | 15.18 | MILES | B-1 | P | F | F | P | Alteration in stream-side or littoral vegetative covers<br>Low flow alterations<br>Physical substrate habitat alterations<br>Sedimentation/Siltation | Grazing in Riparian or Shoreline Zones<br>Irrigated Crop Production<br>Natural Sources<br>Streambank Modifications/destabilization |
| Madison | MT41F004_060 | NORTH MEADOW CREEK, headwaters to mouth (Ennis Lake) | 5 | 18.53 | MILES | B-1 | F | F | F | P | Low flow alterations<br>Phosphorus (Total)<br>Physical substrate habitat alterations<br>Sedimentation/Siltation | Channelization<br>Irrigated Crop Production<br>Natural Sources<br>Streambank Modifications/destabilization |
| Madison | MT41F004_070 | SOUTH MEADOW CREEK, headwaters to mouth (Ennis Lake) | 5 | 12.98 | MILES | B-1 | N | F | F | P | Aquatic Plants - Native<br>Chlorophyll-a<br>Lead<br>Physical substrate habitat alterations | Agriculture<br>Impacts from Abandoned Mine Lands (Inactive)<br>Irrigated Crop Production |
| Madison | MT41F004_080 | RUBY CREEK, headwaters to mouth (Madison River) | 4C | 15.91 | MILES | B-1 | N | F | F | P | Low flow alterations | Impacts from Hydrostructure Flow Regulation/modification<br>Irrigated Crop Production |
| Madison | MT41F004_100 | WEST FORK MADISON RIVER, headwaters to mouth (Madison River) | 5 | 39.41 | MILES | B-1 | N | F | N | P | Alteration in stream-side or littoral vegetative covers<br>Arsenic<br>Cadmium<br>Lead<br>Low flow alterations | Agriculture<br>Flow Alterations from Water Diversions<br>Forest Roads (Road Construction and Use)<br>Impacts from Hydrostructure Flow Regulation/modification<br>Irrigated Crop Production |

F=Full Support P=Partial Support T=Threatened N=Not Supporting I=Insufficient Information X=Not Assessed

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**Source**: Montana Department of Environmental Quality, "Draft 2014 Water Quality Integrated Report," App. A - Impaired Waters, at: http://deq.mt.gov/WQInfo/CWAIC/Reports/IRs/2012/Appendix_A.pdf. (*Note*: There are many more examples of both 4c and 5 listings with the cause of low flow alterations in this Impaired Waters list.)

**Table 4-3. Top 10 Causes of Impairment – All Assessment Units**

| Cause Name | # of AUs |
|---|---|
| Sedimentation/Siltation | 457 |
| Alteration in streamside or littoral vegetative covers[1] | 411 |
| Low flow alterations[1] | 237 |
| Phosphorus (Total) | 235 |
| Nitrogen (Total) | 207 |
| Lead | 178 |
| Physical substrate habitat alterations[1] | 159 |
| Copper | 150 |
| Arsenic | 127 |
| Cadmium | 119 |

[1] These causes are pollution, or non-pollutants, and thus TMDLs cannot be developed.

**Source**: Montana Department of Environmental Quality, "Draft 2014 Water Quality Integrated Report," Table 4-3, at: http://deq.mt.gov/WQInfo/CWAIC/Reports/IRs/2012/Final2012IR.pdf.

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# V. New Mexico

*Integrated List*

**Three Rivers (Perennial prt HWY 54 to USFS exc Mescalero)** **Tularosa Valley**

| Assessment Unit ID: | Size (mi or ac): | WQS reference: | Monitoring Schedule: | Cycle Last Assessed: | IR Category: |
|---|---|---|---|---|---|
| NM-2802_00 | 14.68 | 20.6.4.802 | 2012 | 2006 | 4C |

**Use Information:**

| Designated Use (s): | Attainment: |
|---|---|
| Domestic Water Supply | Not Assessed |
| High Quality Coldwater Aquatic Life | Not Supporting |
| Irrigation | Not Assessed |
| Livestock Watering | Not Assessed |
| Primary Contact | Not Assessed |
| Wildlife Habitat | Not Assessed |

**Assessment Information:**

| Probable Causes of Impairment: | TMDL Schedule: |
|---|---|
| Low flow alterations | |

**Assessment Unit Comments:** There is extensive irrigation in the reach from surface water diversion as well as ground water pumping in the lower portion of the assessment unit. Therefore, this AU is listed under Category 4C with an impairment of Low Flow Alteration diversion (flow modification) "pollution" is de-watering this reach.

**Three Rivers (USFS bnd to headwaters)** **Tularosa Valley**

| Assessment Unit ID: | Size (mi or ac): | WQS reference: | Monitoring Schedule: | Cycle Last Assessed: | IR Category: |
|---|---|---|---|---|---|
| NM-2802_01 | 4.16 | 20.6.4.802 | 2012 | 2006 | 5/5A |

**Use Information:**

| Designated Use (s): | Attainment: |
|---|---|
| Domestic Water Supply | Fully Supporting |
| High Quality Coldwater Aquatic Life | Fully Supporting |
| Irrigation | Fully Supporting |
| Livestock Watering | Fully Supporting |
| Primary Contact | Not Supporting |
| Wildlife Habitat | Fully Supporting |

**Assessment Information:**

| Probable Causes of Impairment: | TMDL Schedule: |
|---|---|
| E. coli | 2010 |

**Probable Sources of Impairment:**

Other Recreational Pollution Sources

**Assessment Unit Comments:** Per USFS personnel (2/4/09), livestock grazing is not allowed along this stream reach. It is a popular horseback riding trail with several crossings.



**Source:** New Mexico Environment Department Surface Water Quality Bureau, "2012 – 2014 State of New Mexico Clean Water Act §303(d)/§305(b) Integrated Report, App. A, List of Assessed Surface Waters, US EPA—Approved (May 8, 20122)," at: http://www.nmenv.state.nm.us/swqb/303d-305b/2012-2014/AppendixA-USEPA-Approved303dList.pdf. (*Note:* Here, there is both an "Integrated List" and a 303(d) List for Category 5. There are many more examples of 4c listings in this Integrated List.)

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# VI. Ohio

| Section L4. Section 303(d) List of Prioritized Impaired Waters | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Assessment Unit | Assessment Unit Name | Sq. Mi. in Ohio | Human Health | Recre-ation | Aquatic Life | PDW Supply | Priority Points | Next Field Monitoring | Projected TMDL |
| 05080001 03 05 | Bokengehalas Creek | 27.74 | 5h | 5 | 5 | 0 | 8 | 2023 | 2026 |
| 05080001 03 06 | Brandywine Creek-Great Miami River | 33.30 | 5h | 5 | 5 | 0 | 8 | 2023 | 2026 |
| 05080002 01 04 | Holes Creek | 27.13 | 5h | 5 | 5 | 0 | 8 | 2025 | 2028 |
| 05080002 90 01 | Great Miami River Mainstem (Mad River to Four Mile Creek) | 3298 | 5 | 5 | 5 | 0 | 8 | 2025 | 2014 |
| 05090103 02 03 | Little Pine Creek | 29.52 | 5h | 5 | 5 | 0 | 8 | 2025 | 2028 |
| 05090202 10 05 | West Fork East Fork Little Miami River | 28.88 | 1h | 3 | 5hx | 5 | 8 | 2012 | 2015 |
| 24001 001 | Lake Erie Western Basin Shoreline (including Maumee Bay and Sandusky Bay) | N/A | 5 | 5 | 5 | 1 | 8 | 2013 | 2016 |
| 04100006 02 02 | Deer Creek-Bean Creek | 31.73 | 3 | 5 | 5hx | 0 | 7 | 2013 | 2016 |
| 04100007 04 03 | Honey Run | 13.27 | 5h | 5 | 5 | 3i | 7 | 2025 | 2028 |
| 04100010 02 02 | East Branch Portage River | 36.15 | 5 | 4A | 5 | 3i | 7 | 2023 | 2026 |
| 04100011 10 01 | East Branch East Branch Wolf Creek | 21.90 | 3 | 5 | 5 | 0 | 7 | 2024 | 2027 |
| 04100011 10 02 | Town of New Riegel-East Branch Wolf Creek | 33.40 | 3 | 5 | 5 | 0 | 7 | 2024 | 2027 |
| 04100011 12 03 | Green Creek | 30.78 | 1 | 5 | 5 | 3i | 7 | 2024 | 2027 |
| 04110004 01 04 | Center Creek-Grand River | 31.43 | 5h | 5 | 5 | 0 | 7 | 2019 | 2022 |
| 04110004 02 02 | Middle Rock Creek | 21.37 | 1 | 5 | 5 | 0 | 7 | 2019 | 2022 |
| 04110004 03 05 | Plumb Creek-Grand River | 19.24 | 5 | 5 | 1 | 0 | 7 | 2019 | 2022 |
| 05030101 06 10 | Bieler Run-Little Beaver Creek | 16.69 | 5 | 5 | 1ht | 0 | 7 | 2018 | 2021 |
| 05030102 01 04 | Frontal Pymatuning Reservoir | 42.67 | 5h | 5 | 5 | 0 | 7 | 2023 | 2026 |
| 05030102 03 04 | Booth Run-Pymatuning Creek | 59.75 | 1 | 5 | 4C | 0 | 7 | 2023 | 2026 |
| 05030102 06 01 | Yankee Run | 44.81 | 3 | 5 | 5 | 0 | 7 | 2023 | 2026 |
| 05030103 06 03 | City of Warren-Mahoning River | 40.38 | 5 | 5h | 3x | 0 | 7 | 2013 | 2016 |
| 05030103 90 01 | Mahoning River Mainstem (Eagle Creek to Pennsylvania Border) | 1075 | 5 | 3i | 5 | 0 | 7 | 2013 | 2016 |
| 05030106 03 04 | Flat Run-Wheeling Creek | 23.29 | 5h | 5 | 5 | 0 | 7 | 2025 | 2028 |
| 05030106 12 04 | Glenns Run-Ohio River | 31.29 | 5h | 5 | 5 | 0 | 7 | 2025 | 2028 |
| 05040001 04 06 | Headwaters Sandy Creek | 32.13 | 5 | 5 | 5 | 0 | 7 | 2025 | 2028 |
| 05040001 06 05 | Armstrong Run-Sandy Creek | 32.20 | 5 | 5 | 1 | 0 | 7 | 2025 | 2028 |
| 05040002 01 01 | Marsh Run | 20.84 | 3 | 5 | 5 | 3i | 7 | 2023 | 2026 |
| 05040002 01 05 | Shipp Creek-Black Fork Mohican River | 61.62 | 3 | 5 | 5 | 0 | 7 | 2023 | 2026 |
| 05040002 06 05 | Jerome Fork-Mohican River | 35.55 | 3i | 5 | 5 | 0 | 7 | 2023 | 2026 |
| 05040003 01 01 | Headwaters North Branch Kokosing River | 45.29 | 1 | 5 | 5 | 0 | 7 | 2022 | 2025 |
| 05040003 02 01 | Headwaters Kokosing River | 36.42 | 3 | 5 | 5 | 0 | 7 | 2022 | 2025 |
| 05040003 02 02 | Mile Run-Kokosing River | 38.60 | 3 | 5 | 5 | 0 | 7 | 2022 | 2025 |

| Section L4. Section 303(d) List of Prioritized Impaired Waters | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Assessment Unit | Assessment Unit Name | Sq. Mi. in Ohio | Human Health | Recre-ation | Aquatic Life | PDW Supply | Priority Points | Next Field Monitoring | Projected TMDL |
| 05060002 16 05 | Carroll Run-Scioto River | 16.05 | 5h | 3 | 5hx | 0 | 4 | 2011 | 2014 |
| 05060002 90 01 | Scioto River Mainstem (Big Darby Creek to Paint Creek) | 3866 | 5 | 3 | 5 | 0 | 4 | 2011 | 2014 |
| 05060002 90 02 | Scioto River Mainstem (Paint Creek to Sunfish Creek) | 5936 | 5 | 3i | 5 | 0 | 4 | 2011 | 2014 |
| 05060003 04 01 | South Fork Lees Creek | 19.97 | 3 | 5 | 5 | 0 | 4 | 2022 | 2025 |
| 05060003 04 07 | Big Branch-Rattlesnake Creek | 20.48 | 3 | 5 | 1 | 0 | 4 | 2022 | 2025 |
| 05060003 07 03 | Lower Twin Creek | 16.60 | 3 | 5 | 3i | 0 | 4 | 2022 | 2025 |
| 05060003 08 04 | Mills Branch-Compton Creek | 28.79 | 3 | 5 | 1 | 0 | 4 | 2022 | 2025 |
| 05060003 09 04 | Biers Run-North Fork Paint Creek | 31.32 | 3i | 5 | 1 | 0 | 4 | 2022 | 2025 |
| 05080001 02 04 | Calico Creek-Muchnippi Creek | 18.21 | 3 | 1 | 5 | 0 | 4 | 2023 | 2026 |
| 05080001 05 02 | Mile Creek | 62.72 | 3 | 5 | 5 | 0 | 4 | 2023 | 2026 |
| 05080001 06 01 | Nine Mile Creek | 26.14 | 3 | 5 | 1 | 0 | 4 | 2023 | 2026 |
| 05080001 06 03 | Turtle Creek | 35.84 | 3 | 1 | 5 | 0 | 4 | 2023 | 2026 |
| 05080001 07 01 | Leatherwood Creek | 16.94 | 3 | 5 | 1 | 0 | 4 | 2024 | 2027 |
| 05080001 07 02 | Mosquito Creek | 38.30 | 1h | 5 | 4C | 3i | 4 | 2024 | 2027 |
| 05080001 07 03 | Brush Creek-Great Miami River | 30.19 | 3 | 5 | 3i | 0 | 4 | 2024 | 2027 |
| 05080001 08 02 | Headwaters Lost Creek | 14.10 | 3 | 5 | 1 | 0 | 4 | 2024 | 2027 |
| 05080001 20 01 | East Fork Honey Creek | 13.00 | 3 | 5 | 1 | 0 | 4 | 2024 | 2027 |
| 05080001 20 02 | West Fork Honey Creek | 20.91 | 3 | 5 | 1 | 0 | 4 | 2024 | 2027 |
| 05080001 20 03 | Indian Creek | 25.85 | 3 | 5 | 1 | 0 | 4 | 2024 | 2027 |
| 05080002 01 02 | Headwaters Wolf Creek | 23.05 | 5h | 5 | 5 | 0 | 4 | 2025 | 2028 |
| 05080002 01 06 | Opossum Creek-Great Miami River | 19.01 | 5 | 5 | 1 | 0 | 4 | 2025 | 2028 |
| 05080002 03 05 | Little Twin Creek | 22.71 | 5h | 5h | 4n | 0 | 4 | 2019 | 2022 |
| 05080002 04 03 | Clear Creek | 53.01 | 3 | 5 | 1 | 0 | 4 | 2025 | 2028 |
| 05080002 08 03 | Beals Run-Indian Creek | 73.96 | 5 | 5h | 4n | 0 | 4 | 2019 | 2022 |
| 05090103 01 01 | Solida Creek-Ohio River | 34.25 | 3 | 5 | 5 | 0 | 4 | 2025 | 2028 |
| 05090103 01 04 | Storms Creek | 37.20 | 1 | 1 | 5 | 0 | 4 | 2025 | 2028 |
| 05090103 01 06 | Ginat Creek | 13.57 | 3 | 5 | 5 | 0 | 4 | 2025 | 2028 |
| 05090103 01 07 | Grays Branch-Ohio River | 33.89 | 3 | 5 | 3i | 0 | 4 | 2025 | 2028 |
| 05090103 02 04 | Howard Run-Pine Creek | 38.70 | 1 | 5 | 1 | 0 | 4 | 2025 | 2028 |
| 05090103 06 01 | Headwaters Rocky Fork | 26.24 | 3 | 5 | 4n | 0 | 4 | 2025 | 2028 |
| 05090201 02 01 | Headwaters Turkey Creek | 16.31 | 3 | 3 | 5hx | 0 | 4 | 2016 | 2019 |
| 05090201 02 02 | Odell Creek-Turkey Creek | 30.95 | 3 | 3 | 5hx | 0 | 4 | 2016 | 2019 |
| 05090201 02 03 | Pond Run | 12.18 | 3 | 3 | 5hx | 0 | 4 | 2016 | 2019 |
| 05090201 02 04 | Briery Branch-Ohio River | 35.94 | 3 | 3 | 5hx | 0 | 4 | 2016 | 2019 |

**Source:** Ohio Environmental Protection Agency, Ohio Integrated Water Quality Monitoring and Assessment Report, "L4: Section 303(d) List of Prioritized Impaired Waters (Category 5)," at: http://www.epa.ohio.gov/portals/35/tmdl/2012IntReport/IR12SectionL4final.pdf and http://www.epa.ohio.gov/dsw/tmdl/OhioIntegratedReport.aspx#123199061-report (for all integrated report documents).
(*Note*: There are many more examples of 4c listings in this 303(d) List.)

**Table G-3. Prevalence of the top five causes of aquatic life impairment in watershed and large river assessment units based on biological and water quality survey data collected from 2001-2010.**

| Assessment Unit (AU) | # | Number & Percentage of Monitored AUs with Impaired Aquatic Life Use Listed with a Top Five Cause of Impairment[1] | | | | |
|---|---|---|---|---|---|---|
| | | Siltation/ Sedimentation | Nutrients | Habitat Modification | Hydromodification | Organic Enrichment/ Dissolved Oxygen |
| **Watershed** | **1,538** | | | | | |
| Monitored 2001-2010 | 908 | | | | | |
| Impaired aquatic life use | 628 | 373 (58%) | 377 (60%) | 280 (45%) | 226 (36%) | 324 (52%) |
| No impairment | 280 | | | | | |
| **Large River** | **38** | | | | | |
| Monitored 2001-2010 | 31 | | | | | |
| Impaired aquatic life use | 19 | 4 (21%) | 7 (37%) | 10 (53%) | 4 (21%) | 13 (68%) |
| No impairment | 12 | | | | | |

[1] Listed as an aquatic life use impairment cause for at least one stream within the watershed AU or one reach within the large river AU.

**Source:** Ohio 2012 Integrated Report, "Evaluating Beneficial Use: Aquatic Life; at:http://www.epa.ohio.gov/portals/35/tmdl/2012IntReport/IR12SectionGfinal.pdf (can actually track impairment causes accurately if list for them – example for aquatic life impairments)

*"Water Quality Assessment Units - 2014 Integrated Report (Map Portal)," Ohio (Cont'd)*

Watershed assessment units

| Assessment_Unit_ID | Assessment_Unit_Name | ACRES | SQ_MILES | Aquatic Life Use Category | Comments | Cause1 | Cause2 | Cause3 | Source1 | Source2 | year_sampled |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 04110001 03 05 | Coon Creek-East Branch Black River | 24516.34 | 38.31 | 4C | TMDLs for pollutants impairing designated or recommended aquatic life uses in the Black River basin were approved by the U.S. EPA on August 20, 2008. Monitoring in support of the TMDL report was conducted in 1996, 1997, 2000, and 2001. The monitoring report for data collected in 1997 is available at http://www.epa.ohio.gov/dsw/document_index/psdindx.aspx (See Index Number MAS/1998-11-4). Follow-up biological, physical habitat, and chemical water quality monitoring was conducted in 2012. Detected aquatic life use impairment was attributed to natural low summer flow conditions and the attendant effects on physical habitat quality and biotas. The original TMDL report and status of follow-up reports and analyses based on 2012 monitoring and assessment are available via the Black River tab at http://epa.ohio.gov/dsw/tmdl/BlackRockyRivers.aspx. | sedimentation/siltation | | | dam or impoundment | | 2012 |
| 04110001 04 04 | Jackson Ditch-East Branch Black River | 21524.91 | 33.63 | 4C | TMDLs for pollutants impairing designated or recommended aquatic life uses in the Black River basin were approved by the U.S. EPA on August 20, 2008. Monitoring in support of the TMDL report was conducted in 1996, 1997, 2000, and 2001. The monitoring report for data collected in 1997 is available at http://www.epa.ohio.gov/dsw/document_index/psdindx.aspx (See Index Number MAS/1998-11-4). Follow-up biological, physical habitat, and chemical water quality monitoring was conducted in 2012. As aquatic life use impairment was detected in the assessment unit, TMDLs will be reviewed and revised accordingly. The original TMDL report and status of follow-up reports and analyses based on 2012 monitoring and assessment are available via the Black River tab at http://epa.ohio.gov/dsw/tmdl/BlackRockyRivers.aspx. | sedimentation/siltation | natural conditions (flow or habitat) | | dam or impoundment | natural sources | 2012 |
| 04110001 07 02 | Mouth Beaver Creek | 16280.71 | 25.44 | 4C | Assessment based on study at 4 sampling locations (RMs 9.1-7.0 in the vicinity of South Amherst) conducted by EnviroScience, Inc. in 2008 using ODC Level 3 fish and macroinvertebrate practitioners; 2 sites (>20 sq. mi. and < 50 sq. mi.) were in full attainment, 1 site (< 20 sq. mi.) in partial attainment, and 1 site (<20 sq. mi.) in non-attainment of the designated WWH aquatic life use. | direct habitat alterations | sedimentation/siltation | | dam or impoundment | upstream impoundment | 2008 |
| 05030102 03 04 | Booth Run-Pymatuning Creek | 38241.49 | 59.75 | 4C | Extensive biological, physical habitat, and chemical water quality monitoring was conducted in several Ohio tributaries to the Shenango River in 2009. A report on the findings of the basin survey is available at http://www.epa.ohio.gov/dsw/document_index/psdindx.aspx (See Index Number EAS/2011-1-2). Development of TMDLs for pollutants impairing designated or recommended aquatic life uses is underway. Status of reports and analyses are available at http://epa.ohio.gov/dsw/tmdl/OhioTributariesShenangoRiver.aspx. | natural conditions (flow or habitat) | oxygen, dissolved | other flow regime alterations | natural sources | dam or impoundment | 2008 |
| 05040002 05 01 | Upper Muddy Fork Mohican River | 18298.08 | 28.59 | 4C | Extensive biological, physical habitat, and chemical water quality monitoring was conducted in the Mohican River basin in 2007. A report on the findings of the basin survey is available at http://www.epa.ohio.gov/dsw/document_index/psdindx.aspx (See Index Number EAS/2009-5-4). Development of TMDLs for pollutants impairing designated or recommended aquatic life uses is underway. Status of reports and analyses are available via the Mohican River tab at http://epa.ohio.gov/dsw/tmdl/MuskingumRiver.aspx. | other flow regime alterations | | | dam or impoundment | | 2007 |
| 05040004 04 07 | Painter Creek-Jonathon Creek | 38798.71 | 60.61 | 4C | TMDLs for pollutants impairing designated or recommended aquatic life uses in the Moxahala Creek watershed were approved by U.S. EPA on July 10, 2013. The TMDL report is available via the Moxahala Creek tab at http://epa.ohio.gov/dsw/tmdl/MuskingumRiver.aspx. Monitoring in support of the TMDL report was conducted in 2008. A report on the findings of the watershed survey is available at http://www.epa.ohio.gov/dsw/document_index/psdindx.aspx (See Index Number EAS/2009-4-2). | direct habitat alterations | | | dam or impoundment | | 2009 |
| 05060001 10 05 | Brandige Run-Olentangy River | 19064.81 | 29.79 | 4C | TMDLs for pollutants impairing designated or recommended aquatic life uses in the Olentangy River basin were approved by U.S. EPA on September 19, 2007. The TMDL report is available via the Olentangy River tab at http://epa.ohio.gov/dsw/tmdl/SciotoRiver.aspx. Monitoring in support of the TMDL report was conducted in 2003. The monitoring report is available at http://www.epa.ohio.gov/dsw/document_index/psdindx.aspx (See Index Number EAS/2005-12-6). Most of this assessment unit consists of Delaware Lake and includes no large streams not significantly inundated by the lake. Much of the reach identified as the Olentangy River in the assessment unit is impounded by the base elevation of the Delaware Lake pool. | other flow regime alterations | sedimentation/siltation | | dam or impoundment | | 2003 |

**Source:** Table provided via electronic mail by Tinka J. Mount (trinka.mount@epa.ohio.gov), Ohio EPA, Division of Surface Water, Re: Ohio 2014 Integrated Report (Sept. 9, 2014), *data available at*: http://wwwapp.epa.ohio.gov/gis/mapportal/IR2014.html.

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# VII. Tennessee

## *Section 303(d) List, pp. 17, 92, 127*

**Final Version 2012 303(d) LIST (Collins River Basin cont.)**

| Waterbody ID | Impacted Waterbody | County | Miles/Acres Impaired | CAUSE / TMDL Priority | | Pollutant Source | COMMENTS |
|---|---|---|---|---|---|---|---|
| TN05130107 012 – 0100 | LOCKE BRANCH | Warren | 4.56 | Alteration in stream-side or littoral vegetative cover<br>Loss of biological integrity due to siltation | L<br>L | Pasture Grazing | Category 5. TMDLs needed. |
| TN05130107 012 – 0200 | FULTZ CREEK | Warren | 14.4 | Alteration in stream-side or littoral vegetative cover<br>Loss of biological integrity due to siltation | L<br>L | Silviculture | Category 5. TMDLs needed. |
| TN05130107 012 – 0400 | WEST FORK HICKORY CREEK | Coffee | 54.54 | Escherichia coli | H | Pasture Grazing | Category 5. (One or more uses impaired.) |
| TN05130107 012 – 0410 | MEADOW BRANCH | Coffee | 7.89 | Escherichia coli | H | Pasture Grazing | Category 5. (One or more uses impaired.) |
| TN05130107 016 – 0150 | SAVAGE CREEK | Grundy Sequatchie | 22.1 | Flow Alteration | NA | Upstream Impoundment | Category 4c. (Impacts not caused by pollutant.) |
| TN05130107 016 – 0740 | LAUREL CREEK | Grundy | 3.93 | Loss of biological integrity due to siltation | L | Specialty Crop Production | Category 5. TMDL needed. |
| TN05130107 016 – 2000 | COLLINS RIVER | Grundy | 5.8 | Iron<br>Manganese<br>pH | M<br>M<br>M | Abandoned Mining | Stream is Category 5. (One or more uses impaired.) |
| TN05130107 023 – 0200 | DRY CREEK | Warren Sequatchie | 31.25 | Aluminum<br>Sulfates<br>pH<br>Manganese<br>Iron | M<br>M<br>M<br>M<br>M | Abandoned Mining | Stream is Category 5. (One or more uses impaired.) |
| TN05130107 023 – 0230 | HE CREEK | Sequatchie | 1.45 | pH<br>Manganese<br>Iron | M<br>M<br>M | Coal Mining Permitted Discharge<br>Abandoned Mining | Stream is Category 5. (One or more uses impaired.) |
| TN05130107 023 – 0231 | LITTLE HE CREEK | Sequatchie | 1.98 | pH<br>Manganese<br>Iron | M<br>M<br>M | Coal Mining Permitted Discharge<br>Abandoned Mining | Stream is Category 5. (One or more uses impaired.) |
| TN05130107 023 – 0232 | BIG HE CREEK | Sequatchie | 2.95 | pH<br>Manganese<br>Iron | M<br>M<br>M | Coal Mining Permitted Discharge<br>Abandoned Mining | Stream is Category 5. (One or more uses impaired.) |

**Final Version 2012 303(d) LIST (Emory River Watershed cont.)**

| Waterbody ID | Impacted Waterbody | County | Miles/Acres Impaired | CAUSE / TMDL Priority | | Pollutant Source | COMMENTS |
|---|---|---|---|---|---|---|---|
| TN06010208 015 – 0810 | ONE MILE CREEK | Cumberland | 6.5 | Loss of biological integrity due to siltation | NA | Land Development | Category 4a. EPA approved a siltation TMDL that addresses the known pollutant. |
| TN06010208 015 – 0911 | BAGWELL CREEK | Cumberland | 3.32 | Flow Alteration | NA | Upstream Impoundment | Category 4c. Impacts not from a pollutant |
| TN06010208 015 – 0950 | NORTH CREEK | Cumberland | 1.83 | Flow Alteration | NA | Upstream Impoundment | Category 4c. Impacts not from a pollutant |
| TN06010208 015 – 1310 | BLACK GUM BRANCH | Cumberland | 1.41 | Flow Alteration | NA | Upstream Impoundment | Category 4c. Impacts not from a pollutant |
| TN06010208 020 – 0100 | SMITH BRANCH | Morgan | 5.4 | pH | NA | Abandoned Mines | Category 4a. EPA approved a pH TMDL that addresses the known pollutant. |
| TN06010208 020 – 0400 | GOLLIHER CREEK | Morgan | 5.6 | Manganese<br>Iron<br>pH | H<br>H<br>NA | Abandoned Mines | Category 5. EPA approved pH TMDL that addresses some of the known pollutants. |
| TN06010208 020 – 0500 | FAGON MILL CREEK | Morgan | 2.6 | Manganese<br>pH | H<br>NA | Abandoned Mines | Category 5. EPA approved pH TMDL that addresses some of the known pollutants. |
| TN06010208 020 – 0600 | LITTLE LAUREL CREEK | Morgan | 1.32 | pH | NA | Abandoned Mines | Category 4a. EPA approved a pH TMDL that addresses the known pollutant. |
| TN06010208 020 – 0700 | LAUREL CREEK | Morgan | 3.7 | pH | NA | Abandoned Mines | Category 4a. EPA approved a pH TMDL that addresses the known pollutant. |
| TN06010208 020 – 3000 | CRAB ORCHARD CREEK | Morgan | 7.9 | Manganese<br>pH | H<br>NA | Abandoned Mines | Category 5. EPA approved pH TMDL that addresses some of the known pollutants. |

**Final Version 2012 303(d) LIST (Duck River Watershed cont.)**

| Waterbody ID | Impacted Waterbody | County | Miles/Acres Impaired | CAUSE / TMDL Priority | | Pollutant Source | COMMENTS |
|---|---|---|---|---|---|---|---|
| TN06040003 041 – 1100 | DOG BRANCH | Hickman Maury | 13.8 | Escherichia coli | NA | Pasture Grazing | Category 4a. EPA approved a pathogen TMDL that addresses the known pollutant. |
| TN06040003 050 - 0620 | GRAB CREEK | Dickson | 3.94 | Escherichia coli | H | Pasture Grazing<br>Discharges from MS4 area | Stream is Category 5. One or more uses are impaired. |
| TN06040003 060 – 0700 | EGYPT HOLLOW CREEK | Humphreys | 4.68 | Flow Alterations<br>Low dissolved oxygen<br>Manganese | NA<br>L<br>H | Upstream Impoundment | Category 5. Flow is Category 4C, impacts not due to a pollutant. |
| TN06040003 062 – 3000 | BLUE CREEK | Humphreys | 5.1 | Nitrate+Nitrite<br>Total Phosphorus<br>Low dissolved oxygen<br>Solids<br>Escherichia coli | M<br>M<br>L<br>L<br>NA | Municipal Point Source | McEwen STP. Category 5. EPA approved a pathogen TMDL that addresses some of the known pollutants. |

**Source**: Tennessee Department of Environmental and Conservation, "Year 2012 303(d) List" (Jan. 2014), at: www.tn.gov/environment/water/docs/wpc/2012-final-303d-list.pdf (numerous other examples exist).

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# VIII. Vermont

## 2014 Priority Waters List

| Impaired by pollutant | Altered by non-pollutant |
|---|---|
| Part A – 303(d) List of Impaired Waters, including waters proposed for de-listing (submitted to EPA for approval 6-20-14, pdf, 296 KB)<br><br>These waters are assessed as impaired due to one or more pollutants for which a TMDL is required to be developed. This list is developed in even-numbered years and submitted to EPA for approval according federal Clean Water Act regulations. | Part E – Waters altered by aquatic invasive species (pdf, 120KB)<br><br>These waters are assessed as altered where aquatic habitat and/or other designated uses are not supported due to the extent of invasive aquatic species. |
| Part B – Impaired waters for which a TMDL is not required (pdf, 199KB)<br><br>These waters are assessed as impaired by a pollutant but because other pollution control mechanisms are in place, no TMDL is required to be developed | Part F – Waters altered by flow regulation (pdf, 132KB)<br><br>These waters are assessed as altered due to hydrologic factors. These often include a lack of flow, water level or flow fluctuations or some other modified hydrologic condition. |
| Part D – Impaired waters with an approved TMDL (pdf, 142KB)<br><br>These waters are assessed as impaired by a pollutant and have a completed TMDL that has been approved by EPA. | |

**Source:** "Condition of Vermont Waters - 2014 Priority Waters List [Draft]" at: www.vtwaterquality.org/mapp/htm/mp_assessment.htm#mapp303d.
(*Note*: In addition to the "Integrated List," the 2014 Priority Waters List also includes separate sections for categories of impairment.)

**Part F. Waters appearing below are altered by flow regulation. These are priority waters for management action.**

| Waterbody ID | Segment Name/ Description | Use(s) Impacted | Surface Water Quality Problem | Current Status/Management or Control Activity | Projected WQS Compliance Year |
|---|---|---|---|---|---|
| VT01-03 | BASIN BROOK | ALS | POSSIBLE LACK OF MINIMUM FLOW BELOW WATER SUPPLY WITHDRAWAL POINT (THREAT) | WSID #5017 - NORTH BENNINGTON WATER DEPT; SERVES AS BACK UP SUPPLY SOURCE TO GRAVEL WELL FIELD | |
| | BOLLES BROOK/ROARING BRANCH, INTAKE TO CITY STREAM CONFLUENCE | ALS | POSSIBLE LACK OF MINIMUM FLOW BELOW WATER SUPPLY WITHDRAWAL POINT (THREAT) | WSID #5016 - BENNINGTON WATER DEPT; ASSESSMENT OF WATER WITHDRAWAL IMPACT DIFFICULT GIVEN LOW PRODUCTIVITY & LOW pH EFFECT | |
| VT03-04 | LEICESTER RIVER, FROM DAM ON LAKE DUNMORE TO 1.0 MILE DOWNSTREAM | ALL USES | ARTIFICIAL FLOW REGULATION & CONDITION BY HYDRO | UNLICENSED FACILITY | 2017 |
| | LEICESTER RIVER, FROM SALISBURY DAM TO 5 MILES DOWNSTREAM | ALL USES | ARTIFICIAL FLOW REGULATION & CONDITION BY HYDRO | UNLICENSED FACILITY | 2017 |
| | | ALS | POSSIBLE DOWNSTREAM FISH PASSAGE PROBLEM AT DAM (THREAT) | UNLICENSED FACILITY | 2017 |
| VT03-04L05 | LAKE DUNMORE (Salisbury) | ALS | WATER LEVEL MGMT BY HYDRO ALTERS AQUATIC BIOTA | LAKE ASSOC. HAS WATER LEVEL AGREEMENT W/CVPS | 2017 |
| VT03-05 | OTTER CREEK, 0.1 MILES BELOW PROCTOR DAM | AES | ARTIFICIAL DEWATERING OF LARGE WATERFALL BY HYDRO | FERC LICENSE EXPIRES IN 2012 | 2012 |
| VT03-06 | FURNACE BROOK | | LACK OF MINIMUM FLOW BELOW WATER SUPPLY WITHDRAWL POINT | BACKUP WATER SUPPLY FOR PROCTOR | |
| | KILN BROOK | ALS | LACK OF MINIMUM FLOW BELOW WATER SUPPLY WITHDRAWAL POINT (THREAT) | WSID #5228 - PROCTOR WATER DEPT; MUNICIPALITY STARTED MONITORING STREAMFLOWS IN 2007 IN COOP WITH ANR | |
| VT03-12 | SOUTH BRANCH, MIDDLEBURY RIVER (1.4 MILES) | ALS | ARTIFICIAL FLOW CONDITION, INSUFFICIENT FLOW BELOW SNOW BOWL SNOWMAKING WATER WITHDRAWAL | PARTIAL SUPPORT 1.4 MI (6.0 MI TOTAL LENGTH) | |

**Source:** Vermont Department of Environmental Conservation - Watershed Management Division, "State of Vermont 2012 List of Priority Surface Waters," at: http://www.watershedmanagement.vt.gov/mapp/docs/mp_2012_priority_waters_lists.pdf.

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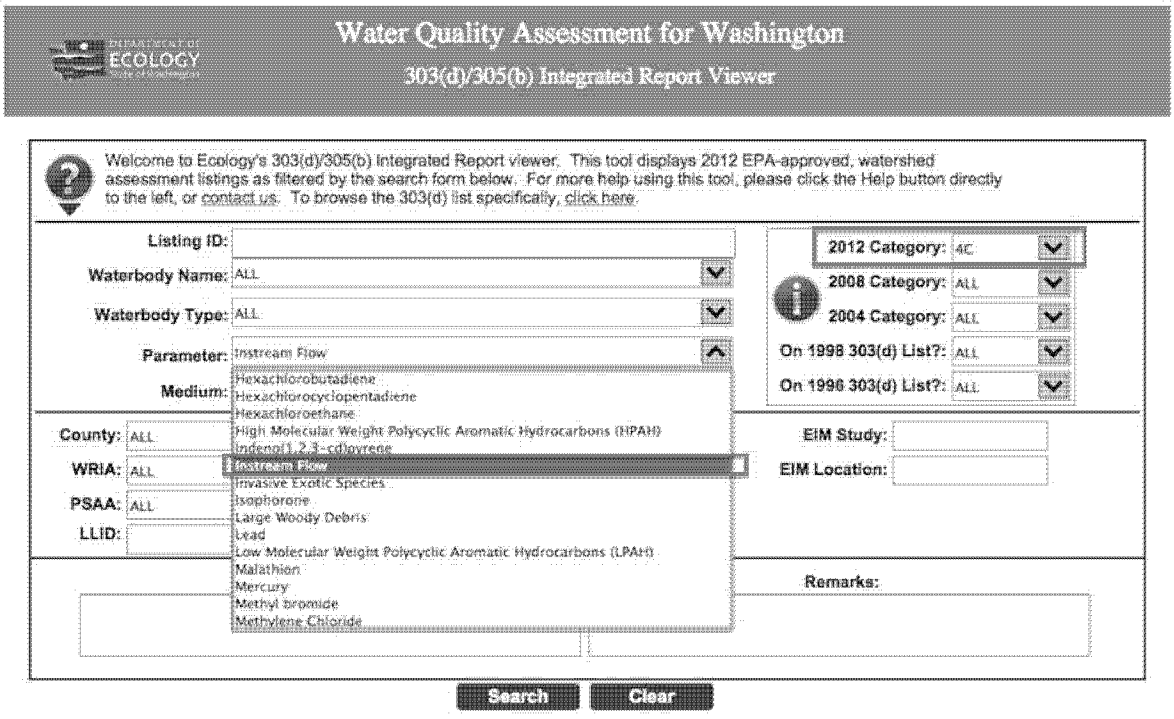
# IX. Washington





| View Listing | Category | WRIA | Waterbody Name | Parameter | Medium | Map Link |
|---|---|---|---|---|---|---|
| 6212 | 4C | 48 - Methow | BEAVER CREEK | Instream Flow | Habitat | 6212 |
| 6163 | 4C | 1 - Nooksack | BERTRAND CREEK | Instream Flow | Habitat | 6163 |
| 5783 | 4C | 39 - Upper Yakima | BIG CREEK | Instream Flow | Habitat | 5783 |
| 6198 | 4C | 17 - Quilcene-Snow | BIG QUILCENE RIVER | Instream Flow | Habitat | 6198 |
| 6199 | 4C | 30 - Klickitat | BLOCKHOUSE CREEK | Instream Flow | Habitat | 6199 |
| 6201 | 4C | 30 - Klickitat | BOWMAN CREEK | Instream Flow | Habitat | 6201 |
| 6213 | 4C | 48 - Methow | CHEWUCH RIVER | Instream Flow | Habitat | 6213 |
| 5789 | 4C | 45 - Wenatchee | CHUMSTICK CREEK | Instream Flow | Habitat | 5789 |
| 5782 | 4C | 38 - Naches | COWICHE CREEK | Instream Flow | Habitat | 5782 |
| 6194 | 4C | 13 - Deschutes | DESCHUTES RIVER | Instream Flow | Habitat | 6194 |
| 6195 | 4C | 13 - Deschutes | DESCHUTES RIVER | Instream Flow | Habitat | 6195 |
| 6181 | 4C | 18 - Elwha-Dungeness | DUNGENESS RIVER | Instream Flow | Habitat | 6181 |
| 6182 | 4C | 18 - Elwha-Dungeness | DUNGENESS RIVER | Instream Flow | Habitat | 6182 |
| 6214 | 4C | 48 - Methow | EARLY WINTERS CREEK | Instream Flow | Habitat | 6214 |
| 6211 | 4C | 46 - Entiat | ENTIAT RIVER | Instream Flow | Habitat | 6211 |

1 2 3 4

**Source**: Washington State Department of Ecology, "Water Quality Assessment for Washington - 303(d)/305(b) Integrated Report Viewer," at: apps.ecy.wa.gov/wats/Default.aspx.

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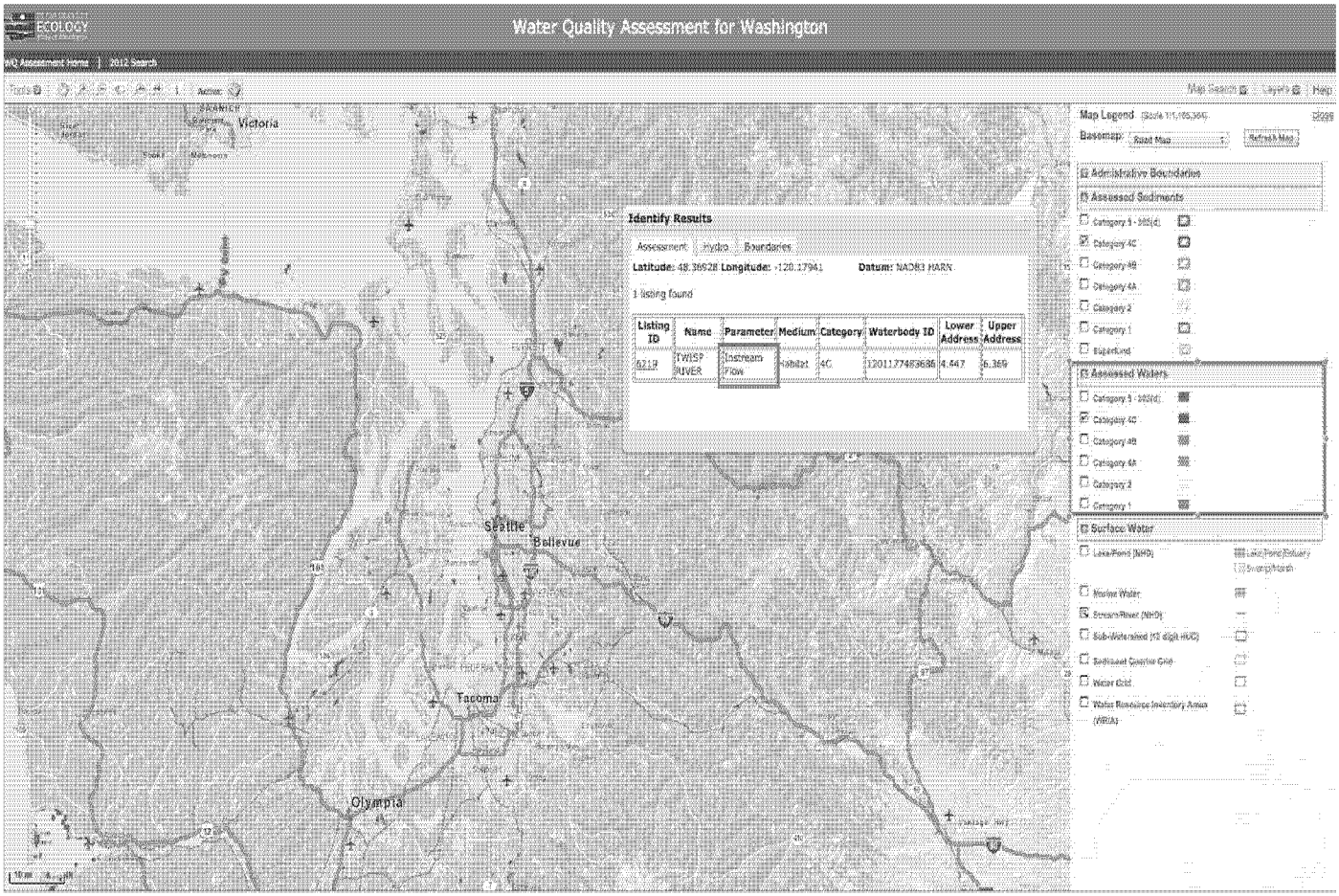


**Source:** Washington State Department of Ecology, "Water Quality Assessment for Washington," at: https://fortress.wa.gov/ecy/wqamapviewer/default.aspx?res=1920x1200.

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# X. Wyoming

**Table 9.1.2.** Ranked summary statistics for the causes and sources of impairment for Wyoming's streams, including both Category 4 and Category 5 (2012 303(d) List) waters.

| Causes and Sources of Wyoming's Impaired Streams | | | |
|---|---|---|---|
| **Causes** | **Miles** | **Sources** | **Miles** |
| *E. Coli*/Fecal Coliform | 950 | Unknown | 1,166 |
| Selenium | 358 | Natural Sources | 477 |
| Sediment | 270 | Livestock Grazing | 389 |
| Habitat Modification | 176 | Wildlife Grazing | 18 |
| Arsenic | 120 | Irrigated Crop Production | 306 |
| Chloride | 99 | Petroleum Production | 170 |
| Temperature | 89 | Municipal Stormwater | 45 |
| Manganese | 64 | Habitat Modification | 54 |
| Oil and Grease | 47 | Hardrock Mining | 17 |
| Flow Alterations | 46 | Municipal WWTPs | 10 |
| Ammonia | 17 | Hardrock Mining in MT | 7 |
| Copper | 17 | | |
| Cadmium | 12 | | |
| Silver | 12 | | |
| pH | 10 | | |



### 9.4 Category 4 Surface Waters

**Table 9.4.** Table of Wyoming's surface waters which are impaired or threatened for a designated use and either a TMDL has been completed and approved by USEPA (4A); other pollution control measures are expected to address the impairment (4B); or pollution, not a pollutant is the source of impairment (4C). All category 4A waterbodies are hyperlinked to their respective TMDLs.

| Bighorn River Basin | | | | | |
|---|---|---|---|---|---|
| **Waterbody** | **305(b) Identifier** | **Location** | **Class/Category** | **Miles/Acres** | **Cause(s) of Impairment** |
| Ocean Lake | WYBH100800050202_01 | Within the Ocean Lake Wildlife Management Area | 2ABww/4A | 6075.8 ac. | Sediment |
| Grass Creek | WYBH100800070608_01 | From an irrigation withdrawal in NENE S23 T46N R99W to a point 14.1 miles upstream | 2AB/4C | 14.1 mi. | Flow Alterations |
| Crooked Creek | WYBH100800100500_01 | From the confluence with Bighorn Lake to a point 7.9 miles upstream | 2AB/4C | 7.9 mi. | Flow Alterations |

| North Platte River Basin | | | | | |
|---|---|---|---|---|---|
| **Waterbody** | **305(b) Identifier** | **Location** | **Class/Category** | **Miles/Acres** | **Cause(s) of Impairment** |
| Horseshoe Creek | WYNP101800080905_03 | From the confluence with Spring Creek to a point 7.3 miles downstream | 2AB/4C | 7.3 mi. | Flow Alterations |

| Little Snake River Basin | | | | | |
|---|---|---|---|---|---|
| **Waterbody** | **305(b) Identifier** | **Location** | **Class/Category** | **Miles/Acres** | **Cause(s) of Impairment** |
| Haggarty Creek | WYLS140500030109_01 | From the Ferris-Haggarty Mine downstream to the confluence with West Fork Battle Creek | 2AB | 5.6 mi. | Cadmium |



**Source:** Wyoming Department of Environmental Quality, "2012 Integrated 305(b) and 303(d) Report," at: http://deq.state.wy.us/wqd/watershed/Program%20Documents/5.%20Water%20Quality%20Assessments%20&%20Integrated%20Report/Guidance/WY2012IR.pdf. (*Note*: There are more examples of 4c listings for flow alterations in the 2012 Integrated Reports' list of Category 4 Surface Waters.)

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August 8, 2014

John W. Corbett, Chair, and Board Members
North Coast Regional Water Quality Control Board
5550 Skylane Blvd., Suite A
Santa Rosa, CA 95403
***Via Electronic Mail:*** patti.corsie@waterboards.ca.gov

**Re: Comment Letter – Resolution No. R1-2014-0043 and Staff Report for the 2012 Integrated Report for the Clean Water Act Section 305(b) Surface Water Quality Assessment and the 303(d) List of Impaired Waters**

Dear Chair Corbett and North Coast Regional Water Board Members:

We are writing in response to the recent release of proposed Resolution No. R1-2014-0043 (Resolution) and the "Staff Report for the 2012 Integrated Report for the Clean Water Act Section (CWA) 305(b) Surface Water Quality Assessment and the 303(d) List of Impaired Waters" (Staff Report). The undersigned organizations have been actively involved in the 2012 Integrated Report process for four years and welcome the opportunity to comment here. We incorporate by reference our April 1, 2014 comment letter written to Chair Marcus and the State Water Resources Control Board (State Water Board) and copied to North Coast Regional Water Quality Control Board (North Coast Board) Executive Officer Matthias St. John.

We welcome the Resolution's direction to "coordinate with the Division of Water Rights on the development of flow objectives or other flow criteria, as appropriate" (¶ 11), in combination with the recent North Coast Board scoping for a flow (hydrology) objective as part of the 2014 Triennial Review of the North Coast Water Quality Control Plan.

However, we continue to question the fact that the proposed Staff Report identifies no water bodies as impaired due to altered flow. The North Coast Board has sufficient information to move forward on flow listings now, not years in the future, particularly with respect to the Scott and Shasta Rivers. Water segments that are impaired by altered flow should be placed in

Category 4c, which is for water segments "impaired or affected by non-pollutant related [*i.e.*, 'pollution'] cause(s)." While the Staff Report asserts that a formal methodology is necessary to determine whether flow is a "cause" of or "factor" contributing to impairment, if a waterway is completely or nearly dewatered, arguing that flow is a merely a "factor" contributing to impairment collides with the facts of impairment. Moreover, flow can be *both* a contributing source of impairment (*e.g.*, for temperature impairment) *and* a cause of impairment – just as is the case for pollutants. As described in a May 15, 2013 comment letter first submitted to the State Water Board, and later submitted to the North Coast Board as part of NGO comments on the draft 303(d) List,[1] other states regularly make flow impairment listings without a statewide policy specific to this particular impairment, and so can California.

As described in the above-referenced May 15th letter, there are a number of benefits associated with identifying waterways as impaired due to altered flow, in addition to closer compliance with the Clean Water Act. First, flow impairment identification will allow for higher prioritization of identified, impaired waterways on lists of bond and other funds earmarked for restoration of impaired waters. Second, flow impairment identification can ease the burden of proof in state regulatory processes that can address flow needs, such as waste and unreasonable use hearings and public trust doctrine applications. Third, flow impairment identification can support better local land use and planning decisions by requiring decisionmakers to consider flow impacts in CEQA assessments. Finally, flow impairment identification allows the state to better track and highlight the primary causes of waterway impairment. For example, USGS reports that "hydrologic alteration" is the primary threat to waterways nationwide, but that data is lost in California, which does not track flow impairments. These and other benefits are not realized by merely (and incorrectly) identifying flow as only a factor that contributes to pollutant impairments.

In addition to these practical benefits, delaying action until there is a formal methodology solely for flows is also inconsistent with the facts and the Listing Policy. As to the latter, the State Water Board's decision to include a "weight of evidence" approach in the Listing Policy[2] *already* provides a statewide approach to address flow-impaired waterways, one that is consistent with the approaches used in many other states. With respect to the former, the Staff Report specifically found that readily available information on the Scott and

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[1] Letter from Earth Law Center and California Coastkeeper Alliance to SWRCB, "Inclusion of Impairments Due to Low Flow in the California 2012 Section 303(d) List" (May 15, 2013), available at: http://www.earthlawcenter.org/static/uploads/documents/303d_listings_letter_May_15_2013_1.pdf. For example, Ohio and Tennessee use biological criteria to raise a red flag on flow, then conduct a deeper investigation to determine if there is a flow impairment (particularly where there are dams). Wyoming usually identifies higher sediment levels than would be expected, then makes listings on a case-by-case basis with no formal adopted process. Idaho starts most listings by identifying sediment or temperature issues, then examines structural issues, and finally makes a decision on a case-by-case basis. Michigan focuses on listing waterways as impaired by altered flow when staff observe channelization and drain/ditch issues.

[2] The Listing Policy states that "When all other Listing Factors do not result in the listing of a water segment but information indicates non-attainment of standards, a water segment shall be evaluated to determine whether the weight of evidence demonstrates that a water quality standard is not attained. If the weight of evidence indicates non-attainment, the water segment *shall* be placed on the section 303(d) list" (emphasis added). SWRCB, "Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List" (Sept. 2004), p. 8, available at: http://waterboards.ca.gov/water_issues/programs/tmdl/docs/ffed_303d_listingpolicy093004.pdf (Listing Policy).

Shasta Rivers *does* indicate flow impairment – yet neither is identified as impaired. For other, low flow waterways, the Staff Report found that "the information and data submitted [...] did not include enough information to meet all the criteria [...]." However, "*all* existing and readily available water quality-related data and information"[3] – which requires going beyond consideration of submitted data – must be considered, especially in light of the now six-year time frame for the biennial listing cycle.

A statewide policy for identifying flow impairments for the 303(d) list, if developed by the State Water Board for close cases (*i.e.*, unlike the Scott and Shasta Rivers), must comply with the letter and intent of CWA Section 303(d) to serve as a backstop to protect waterways where pollution controls fail to protect beneficial uses. Particularly in light of the state's significant deviation from the federally mandated, biennial 303(d)/305(b) report schedule, any decisionmaking structure to identify flow-impaired waterways must err on the side of recognizing and listing threatened and impaired waterways, rather than erecting further roadblocks to identifying and restoring essential flows. Delays for the development of a flows listing policy would interfere with the need to immediately identify the most egregious cases of water bodies impaired due to altered flow, including the Scott and Shasta Rivers.

Finally, we would like to respond to the Staff Report's assertions in Appendix IV that "[t]he Clean Water Act Section 303(d) List identifies only those waters that are impaired by pollutants, as defined in CWA Section 502(6). Altered flow is considered a condition of pollution, not an impairment caused by a pollutant, and therefore is not a part of the 303(d) List." CWA Section 303(d)(1)(A) establishes the requirements for the 303(d) list as follows:

> Each state shall identify those waters within its boundaries for which the effluent limitations required by section 301(b)(1)(A) and section 301(b)(1)(B) are not stringent enough to implement any water quality standard applicable to such waters. The State shall establish a priority ranking for such waters, taking into account the severity of the pollution and the uses to be made of such waters.

In other words, if (after the identified Section 301 pollution controls are put in place) a water body's water quality standards are not being met, then "those waters" "shall" be identified under Section 303(d) – regardless of whether due to pollutant or pollution. Indeed, Section 303(d)(1)(A), which mandates such identification of impaired waters, includes only the word "pollution." The word "pollutant" does not become relevant until Section 303(d)(1)(C), which addresses total maximum daily loads (TMDLs). Identifying a waterway as flow impaired under Category 4c is thus consistent with inclusion on the Section 303(d) list, which by the CWA's own language encompasses "pollution."

The identification of flow-impaired waterways under Section 303(d)(1)(A) is a separate and distinct task from determining whether or not TMDLs are required to address those impairments. This latter task is described in CWA Section 303(d)(1)(C) as follows:

> Each State shall establish for the waters identified in paragraph [303(d)](l)(A)] of this subsection, and in accordance with the priority ranking, the total maximum daily load, for those pollutants which the Administrator identifies ... as suitable for such

[3] 40 C.F.R. § 130.7(b)(5) (emphasis added).

calculation….

Unlike Section 303(d)(1)(A), Section 303(d)(1)(C) does specifically reference "pollutants," but in the context of developing a TMDL only. In other words, Section 303(d) of the CWA requires states to identify all impaired waterways – whether impaired by pollution or pollutants – and then to take that list and develop TMDLs for the pollutant impairments on the list. Several states (including Michigan and Tennessee) recognize this, and place waterways impaired by altered flow in their 303(d) List under Category 4c. California also can and should choose to include flow impairments under Category 4c in its Section 303(d) list – and at a minimum must specifically identify flow-impaired waterways as such in the state's overall Integrated Report.

Finally, the Staff Report states that, if a statewide flow listing methodology is put in place, North Coast staff will consider recommending flow-altered waterways be included in Category 4c in the next (2018) Integrated Report cycle. Even if the target date can be achieved, which is uncertain given past delays, 2018 is too long to wait to begin identifying waterways that are clearly flow-impaired now. If listed, the benefits of such identification can begin almost immediately to protect such waters and the fish that depend on them, while other processes (such as flow objectives) move forward. We accordingly urge the appropriate identification of flow-impaired waterways in this listing cycle.

Thank you for your attention to these comments.

Sincerely,

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